The UK's best selling Apple magazine

Mac FORMAT

Issue 370 | Autumn 2021
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Get set for Monterey

Sure-fire ways to prep your Mac for macOS 12

iOS 15 SUPERGUIDE

Your next FREE iPhone upgrade – revealed!

Make your photos pop!

Have fun with colour

Win!

Anker Mac accessories, prizes worth £690

PLUS

Is Apple spying on your iPhone?

New reviews

- Parallels Desktop 17
- XGIMI 4K projector
- MacBook stands

Portable printers

Six of the best on test

Mac | iPad | iPhone | Watch | iCloud | Music | Photos

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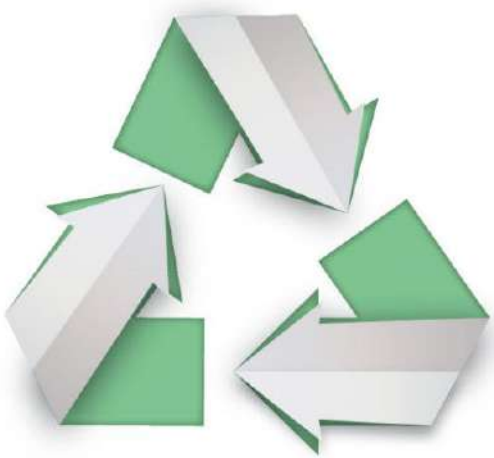

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LOVE PAPER

We love this time of year – every autumn brings new devices, from iPhones to iPads, Apple Watches to Macs, and the promise of new versions of our favourite operating systems with which to use them. And this time around, it's time for iOS 15 to take centre stage.

Turn to p20 and you'll discover all the new features of this latest iPhone update, plus the tips, tricks and how-to advice you can employ to make the most of them. Best of all, you don't even need to buy a new iPhone – every model released since the iPhone 6s will get its fair share of iOS 15 glory. Huzzah!

Talking of glory, turn to p62 and you'll discover the best ways to make sure your Mac is ready for its next free upgrade, macOS Monterey. We talk you through all the steps you need to take before macOS 12 arrives, which ones you can safely ignore, plus best practice guidelines and recommendations for getting everything up and running again afterwards.

As ever, the rest of the issue is packed with news, reviews, how-tos and group tests to help you get the best from your Apple gear, so whether you're upgrading this autumn or not, there's plenty to sink your teeth into.

Enjoy the issue – and don't forget, you can contact us at letters@macformat.com. We love to hear from you!

ROB MEAD-GREEN
EDITOR
editor@macformat.com

Meet the team

Jo Membery
Operations Editor
Jo's hoping the new FaceTime features in iOS 15 will help her avoid proper 'face time' in the office. But only when it's her turn to make the tea.

Paul Blachford
Art Editor
There are only two things Paul really cares about: good design and the colour purple. It's no wonder he's so excited by macOS Monterey.

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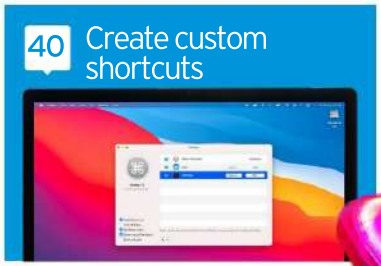

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APPLE CORE

EDITED BY **ROB MEAD-GREEN**

HOT TOPIC!

Redesigned MacBook Pro on the horizon

And new MacBook Air and iMac coming later

The stream of Mac rumours has continued to flow recently, giving us an increasingly clear picture of what to expect in Apple's next batch of laptops and desktop computers.

The most prominent of the rumoured products is the MacBook Pro. This is expected to undergo a wide-ranging redesign, with the 13-inch model being replaced with a 14-inch version with slimmer bezels and a larger display. That display will include a super-high-quality miniLED panel, while the chassis will feature a flat-edged design inspired by the iPad Pro. We can also expect more port variety, with the return of HDMI and MagSafe.

The 16-inch MacBook Pro will not miss out either, and will get most of these new features too. Internally, both flavours of MacBook Pro will be kitted out with improved Apple silicon chips – most likely dubbed the M1X, an upgrade on the existing M1. In fact, they could come with the exact same chip, meaning they have very similar performance, at least according to leaker Dylandkt on Twitter. This leaker has a good track record, so we wouldn't rule it out.

Unfortunately, the latest news is that these changes could result in a price hike to cover the costs. There's no word on what kind of price difference to expect yet, but it wouldn't be a surprise given rising manufacturing costs

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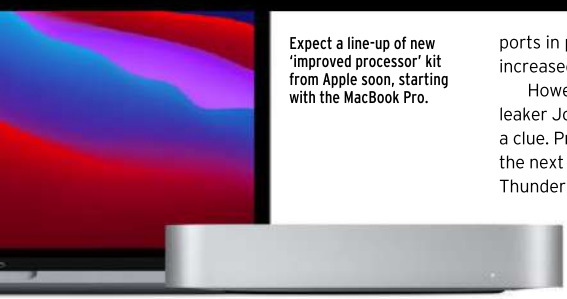
Tim Cook's 10th anniversary as CEO

Tim Cook marked his 10th year as Apple CEO in August. On 24 August 2011, two months before he passed away, Steve Jobs resigned as CEO and passed the title on to Cook. A day later, Cook sent a letter to Apple employees reassuring them that Apple would not change and that it would "stay true" to the company Jobs had created.

In the years since, Cook has built Apple into the largest tech company in the world, possessing enormous influence and financial muscle. 10 years on from assuming the mantle, Cook has increased Apple's market capitalisation by more than $2 trillion. He has come to be seen as a more reserved character than Jobs, but one who has been able to consistently grow Apple's revenues and turn it into a financial powerhouse. Recently, when asked by reporter Kara Swisher whether he would still be at the helm in another 10 years, Cook suggested he would not. But regardless of how long he stays, finding a replacement will not be easy.



Expect a line-up of new 'improved processor' kit from Apple soon, starting with the MacBook Pro.

(see our iPhone story over the page). Considering Apple likes to keep its Mac launches separate from those focusing on iPhones, we would expect to see the new MacBook Pros enter the limelight in October or November this year, after the September launch of the iPhone 13.

Much more in the pipeline

The MacBook Pro is not the only Apple computer set for an imminent upgrade – the Mac mini is also due some attention. When the latest edition of Apple's pint-sized computer was revealed last year, it only had one chip option: the M1. Now, that is set to change.

As reported by Mark Gurman of Bloomberg, Apple is planning to launch a new Mac mini powered by the M1X chip in a few months, potentially before the end of this year. Gurman also believes the device will have an increased number of ports, although he did not state which ports in particular would be increased in number.

However, an earlier claim from leaker Jon Prosser could give us a clue. Prosser has alleged that the next Mac mini will have four Thunderbolt 3 ports instead of the current two. He also claimed that the Mac mini would be shorter in stature, with a plexiglass coating on top that creates a look reminiscent of the Power Mac G4 Cube. Prosser did not state when this Mac would be launched, but given both he and Gurman agree on the port increase, they could be discussing the same model that's supposedly launching soon.

As for next year, there are more new products to look out for. Like its Pro siblings, the MacBook Air is slated for a redesign in the first half of 2022, powered by an all-new M2 chip and with various bright colour options much like the revamped iMac.

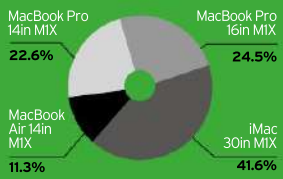
And speaking of the iMac, the larger version of the all-in-one likely won't be revealed in 2021, according to Dylandkt, so as not to distract from Apple's "other M1X Macs" launching at this time. That might indicate the larger model could get the M1X chip rather than the M2 next year. The 24-inch iMac launched in April 2021, so a similar date next year for the larger version could make sense. Time will tell.

Mac FORMAT

THE POLL

WE ASKED...

Which rumoured new Mac are you most looking forward to?



› Log on and see next issue's big question!

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Apple Watch to grow in size?

› **The Apple Watch Series 7 is just around the corner, and it could be due a design overhaul that sees it come in bigger sizes, according to a picture posted by Twitter leaker DuanRui.** The image apparently shows part of an Apple Watch strap with '45MM' printed on it, but whether it is genuine is (at the time of writing) unknown. A second leaker going by the name UnclePan on Weibo has also claimed the smaller Watch will bump up to 41mm alongside the 45mm model. Those posts line up with reporter Mark Gurman's contention that this year's Apple Watch will get a redesign, so slightly larger displays might indeed be on the cards.

The Apple Watch could be getting larger... but perhaps not this large.

APPLE NEWS ROUNDUP

THE WINDS OF CHANGE

APPLE'S UNUSUAL WATCH PATENT

› Apple has just been granted a patent that would let you blow on your Watch to interact with it if your hands were full. The idea is it would help when you're carrying bags, for example, but also need to be quiet so cannot use Siri. By blowing on the Watch, you could wake the device or answer a call. The patent design would apparently protect against accidental activation caused by gusts of wind, too.

LOOK OUT FOR APPLE CAR

UNVEILING COULD HAPPEN THIS YEAR

› The Apple Car has been rumoured for years, but it might finally get revealed this year, according to Nobel Laureate Akira Yoshino. In a recent interview, the lithium-ion battery pioneer stated his opinion that Apple would launch a car by 2025, and to do that it would have to reveal its plans by the end of this year. Never mind the iPhone 13... this could be the 2021 bombshell announcement from Tim Cook.

It's been a rough year for the App Store, but the end is not yet in sight.

More pressure on the App Store

Bad press and legislative action make tough reading for Apple

The last 12 months have not been happy ones for the App Store. But the storm has not yet passed, as a slew of new allegations and obstacles have assailed the digital storefront.

The first is a report from the non-profit watchdog group Campaign for Accountability, which claimed to reveal "major weaknesses in Apple's App Store child safety measures" that would allow underage users to gain access to adult content.

The group created an Apple ID for a fictitious 14-year-old user. Despite registering their age, the account was able to access apps with restricted content very easily. When downloading adult apps, the user was asked to confirm they were over 17. But doing so merely involved tapping 'OK', granting access to the app, despite their age clearly falling below the limit. These apps included ones displaying pornography, in violation of App Store rules.

As well as this contentious issue, a South Korean parliamentary committee has passed a bill that would prohibit Apple and Google from forcing developers to use both companies' in-app payment systems and so taking a cut.

It's a further blow to Apple's App Store, which is still reeling from a year of bad press, developer discontent, and allegations that Apple is using it monopolistically.

Will your next iPhone cost more

Rising supplier prices could be passed on to customers

Apple supplier TSMC – the company responsible for manufacturing most of Apple's custom chips used in its iPhones, Macs, and more – is raising its prices. That could have a knock-on effect on the cost of Apple devices like the iPhone 13.

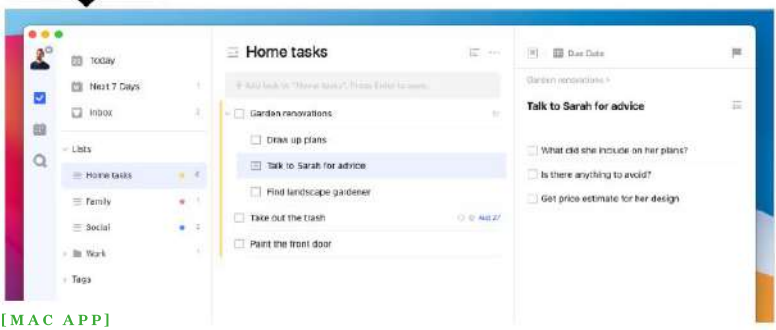
In a warning to its clients, TSMC announced it would raise prices by 10% on chips made using 7-nanometer processes and lower, and by 20% on chips created with 16-nanometer processes and higher. The change will take effect in January 2022.

According to DigiTimes, Apple could pass the cost on to its customers, potentially as soon as the iPhone 13 is launched this September. And now that Macs run on Apple silicon made by TSMC, they too could be affected. Apple has some of the highest profit margins in the industry, so may want to protect those against supplier price increases. That said, it often upgrades its products without raising prices.

The iPhone 13 could have improved Face ID that works with masks – but at a higher price.

In exchange for the potential higher cost, the iPhone 13 is expected to feature ProRes video and portrait mode photos on the high-end models. According to leaker Jon Prosser, Apple is also testing an upgraded Face ID array that is narrower than the current set-up and works with foggy glasses and masks.

APP OF THE MONTH



[MAC APP]

TickTick 4 Free (IAPs)

Task management and reminders that will bring you up to speed

Lots of us do the bulk of our work on our Macs. But with so many distractions readily available on our computers, sometimes it can feel hard to stay on track. For times like that, a to-do app like TickTick is perfect – and there's good news here, because TickTick has just updated its Mac app to version 4.

This update brings a new, 'more refined' interface. Modules like tasks and habits have been divided into tabs to make them easier to manage. Common tasks, such as viewing tasks on a calendar, are now more straightforward, with simpler interactions that let you get on with managing your time. Your favourite lists can now be pinned to the top of the app, too, making them much easier to find.

So, if you need a way to stay on top of your must-do tasks, TickTick's latest update could make that more convenient than ever.

[iOS APP]

Budget Planner: Snoop Finance

FREE

Want to be better at saving money? Try Snoop Finance. Once you connect your bank account, the app automatically plans a budget for you, helps analyse your spending, and tells you when to switch services to save cash. It puts financial control within easy reach.

Why you need it: It makes saving simple and painless.

[iOS GAME]

What Remains of Edith Finch

£4.49

Discover the stories of Edith's family as she roams their abandoned mansion. Each story varies in tone and gameplay, but all end with the death of the family member. The result of exploring these past lives is a game that is uplifting and devastating, but always unforgettable.

Why you need it: A masterful piece of storytelling.

[MAC GAME]

Wildermyth

£19.49

In this brilliant game, every character you play with feels alive and real in a way that few rival titles manage. Stories evolve and grow naturally, carrying you along for the journey. Add on great gameplay that requires careful decision-making and rewards good planning, and you've got a superb RPG.

Why you need it: It's the blueprint for good RPGs.

Image credits: TickTick Team, The Killers/Island Records/UMG Recordings Inc, Hodder & Stoughton, Usnoop Ltd, The Legal Fiction of Edith Finch LLC, Worldwalker Games LLC, Society & Culture

Media Picks

What you should be playing and reading this month

[ALBUM]

Pressure Machine

The Killers

£10.99

The Killers turn their attention to Nephi, Utah – singer Brandon Flowers' hometown. Examining Flowers' teen years results in a truly reflective album.

[AUDIOBOOK]

Billy Summers

Stephen King

£12.99

Billy Summers is the best hitman in the biz, but he wants out. The problem? Well, everything. If it can go wrong, it does for Billy – but that won't stop him.

[PODCAST]

The Town That Knew Too Much

The quiet town of Cheltenham might seem unassuming, but there's a lot going on under the surface. The home of UK spying is run through with mystery and drama.

Crave

THE GEAR WE'RE LUSTING AFTER

1

Elago 2021 Apple TV Siri Remote R5 Case

› $14.99 (about £11) › elago.com

› **Until or unless Apple decides to include its AirTag tracking technology in its Siri Remote for Apple TV, Elago has the next best thing: a silicone sleeve for the Remote that you can pop an AirTag into.** It's cheap – around £11 – and it's tough too, protecting the Siri Remote from hits without getting in the way of its functions. And because it makes the Remote bigger, it makes it less likely to get lost in the first place. Everybody wins, including Apple, because in addition to the case you'll need to shell out for an AirTag to put in it.

Is there a better example of First World problems than spending money on ultra-wideband technology to find the TV remote in your front room? Probably not, but the more things you can locate via the Find My app, the more useful the service becomes.

2

Nikon Z fc

› From £899.99 › nikon.co.uk

› **The throwback styling of Nikon's Z-mount mirrorless fc camera (which apes the company's old-school FM and FE SLRs) is more than just looks.** It delivers dedicated control dials for functions such as ISO and exposure compensation, and boasts the first fully articulating LCD viewfinder of any Z-mount camera.

Inside you get the same 20.9MP sensor that graced the Nikon Z50, although the more expensive Z fc arguably wears it better, allowing Eye-Autofocus while shooting video, and offering manual control over eye AF while shooting stills. The Nikon Z fc is compatible with all 20+ Z-series lenses, but their styling won't match as well.

Charging, power and data transfer are handled by a USB 3.2 Gen 1 interface, which is good, though vloggers may be put off by the lack of a headphone port for audio monitoring.

Image credit: Elago, Nikon

3

Yamaha L700A

› £449 › uk.yamaha.com

› **Yamaha's new L700A noise-cancelling wireless headphones pack almost every must-have feature for new headphones into one premium package.**

The showpiece feature is the head-tracking 3D audio. This works in the same way as the AirPods Max or AirPods Pro, meaning that sensors detect which way your head is facing, adjusting what you're hearing as if you were sitting among a bunch of speakers. Cleverly, while Apple's headphones can only do this with specific content that's in the right format, Yamaha is promising to do it with anything you listen to. Think of it as 3D upscaling from stereo to surround sound.

4

Sony SRS-NB10 Neck Speaker

› £135 › sony.co.uk

› **Neckband speakers are more niche than they deserve to be. If you want sound in your ears but regular headphones put too much strain on your lugs – or you want to hear the sounds around you – they're ideal.**

Sony's latest uses a pair of speakers to point sound directly at your ears (instead of bone conducting via your collarbone) with passive radiators to add warmth. Pitched as a great conference-call companion, with twin beamforming microphones, signal processed to minimise feedback and echo, they should ensure you can hear and be heard clearly. But that's the icing; these are also great for activities like private TV watching at night, or cycling with tunes.

5

Dell UltraSharp Webcam

› £179 › dell.com

› **If you're resigned to spending eight hours a day on a webcam, Dell's new unit makes all the right waves.** Don't look at it so much as a 4K cam – though you can take full advantage of that Sony Starvis sensor if you want to. It's all about the smarts.

The UltraSharp will drop the resolution a little, and make up for it by framing you perfectly as you move around the room, using HDR and auto lighting correction to ensure you don't resemble a pallid ghost in a gloomy graveyard.

You can tweak your field of view (FOV), and even slap on a physical lens cap in those moments you don't want the world watching. Webcams have rarely looked quite as impressive as this.

Image credits: Yamaha Corp, Sony Europe BV, Dell

WATCH IN NUMBERS

With an update imminent, we explore the facts and stats behind Apple's wrist-based computer

£13,500

Price of the first-gen Apple Watch in 18K gold.

£2,606

Cost of servicing a first-gen Apple Watch Edition. The sixth-gen GPS+Cellular version costs just £476.44 to service.

100 million

Number of Apple Watch users worldwide, according to Counterpoint Research's Global Smartwatch Shipments tracker.

24 April, 2015

Launch date of the first Apple Watch which came in Apple Watch Sport, Apple Watch and Apple Watch Edition variants, and sported a 520MHz 32-bit dual-core processor.

50m

Maximum underwater depth for Apple Watch SE, Apple Watch Series 3 and Apple Watch Series 6, making all three devices water-resistant.

18 hours

Maximum usage time between recharges. Apple has still to launch a Watch that lasts a full day, let alone one that lasts weeks or months at a time.

64-bit

The Apple Watch Series 6 includes an Apple silicon SIP (System in Package) chip, making it 20% faster than the previous generation.

32GB

Maximum storage capacity of Apple Watch Series 6 and Apple Watch SE, the most ever in a Watch.

1,000 nits

The impressively dazzling maximum brightness of the Apple Watch Series 6's Always-On Retina LTPO LED display.

42

The answer to life, the universe and everything. Plus, the number of different faces available on the Apple Watch Series 6.

54

Number of complications it's possible to display on the Apple Watch's California face. Not all at the same time though...

8

The latest version of watchOS, which features a new Mindfulness app (an updated version of Breathe), and Focus.

CONTACTS

Have your say on all things Apple!

Contact us

Email your queries and your questions to letters@macformat.com

LETTER OF THE MONTH!

SILICON SUPERHIGHWAY

I've bought and been using Macs for over 20 years, but the latest generation has just blown me away. Sitting on my desk right now is a new 24in iMac, and it's brilliant – beautiful to look at and to use and, boy, is it fast! If its M1 chip is anything to go by, Apple definitely made the right call by dropping Intel – it's the silicon superhighway all the way! And that set me thinking, do we know yet what Apple's plans are for the successors to the M1? While I don't plan on upgrading anytime soon, it would be good to know what Apple's silicon roadmap is. After all, we don't want a repeat of the PowerPC era or the Intel one come to that. Any idea?

BY EDDIE JONES

ROB SAYS...

Apple never reveals its roadmaps, although I think we can be fairly confident that it wouldn't have made such as bold move without having at least some idea where Apple silicon would take it. We've already seen rumours around the M1X (which should make its debut in rumoured new MacBook Pros and a revamped Mac mini – see p6), and Apple has said it plans to complete the transition to Apple silicon by November 2022. But there's more to Apple silicon than pure horsepower – having Apple-designed chips at the heart of everything it does gives Apple much more control over the evolution of its own devices and that has to be good news for all of us.

The M1 chip meant an incredible performance boost for the 24in iMac. Check out what could be next on p6...

APPLE IN THE DOCK

I've been following with interest Apple's recent trials (literally) and tribulations over the App Store and the money it makes from developers, who're given little to no choice over how us users pay for in-app purchases (IAPs), with Apple taking a large percentage of the proceeds.

While I agree with Apple's argument that it costs money to run and administer the App Store and that enabling users to pay via IAP means they're protected against fraud and other scams, it does seem hypocritical of Apple to impose IAPs on some developers and not others. Netflix, NOW TV and others have long been able to accept payments outside the App Store, without being penalised by Apple. Now I see that as a result of a court case in the US, this may be applied more widely.

I, for one, am happy to carry on using IAPs, including subscriptions using the App Store and my Apple ID – it's easy to keep tabs on what you're spending for one thing and surely, in many cases, it's actually beneficial to smaller developers too as they don't have the hassle of processing payments themselves.

BY GEORGE SPENCER

ROB SAYS...

We're really happy with the way IAPs and in-app subscriptions work too. Like you say, it's safe, hassle-free and seamless for us end users, but I can see why some developers may balk at giving Apple a big chunk of change on a regular basis (although Apple cut the commission it makes from developers earning less than $1 million per year from 30% to 15% last November). What I don't think any of us want to end up with is a Wild West of payment options – choice is good, but so too is peace of mind, which is what the App Store gives us now.

ALL HAIL, APPLE TV+

Thanks to last year's lockdown and the free sub I got with the purchase of my iPhone, I've spent the last year soaking up Apple TV+. Some shows are undoubtedly rubbish (I'm looking at you, *See*), but *Physical*, *Ted Lasso* and others have got me hooked. Joy!

BY TOM BRYANT

LETTER OF THE MONTH

Win an AirFly Pro!

The author of our Letter of the Month receives a prize! Email us for your chance to win an AirFly Pro – the wireless headphone Bluetooth transmitter, perfect for use with Apple's AirPods and AirPods Pro. Find out more at twelvesouth.com.

MATT BOLTON...

IS MAKING THE iPHONE THE CENTRE OF OUR LIVES TOO RISKY WITHOUT SOME KIND OF REPLACEMENT SYSTEM?

Apple is on a mission to make the smartphone even more indispensible than it already is. The whole early schtick about smartphones was that they're the centre of our digital lives. Email, photos, music, instant messaging, social networks, entertainment, navigation... all in your pocket. This is why we're happy to pay iPhone Pro prices just as much as SE prices – it's perhaps the most important thing anyone owns.

But despite feeling like you really can't be without one, the iPhone remains ultimately a luxury – to be without any of these things is rarely a crucial issue in life. If you lose your iPhone it's a major inconvenience, no doubt, but you can mostly carry out your most important tasks somewhere else while you decide whether to pony up for an identical model or get something else to hold you over (which would also provide these services, if slightly less slickly than an iPhone).

Apple is working on putting the iPhone at the centre of your whole life

But Apple is working on putting the iPhone at the centre of your whole life, not just your digital one. Look at the Apple Card and now Apple's initiative to make your iPhone your driver's licence (both debuting in the US, but you must assume Apple would like to roll them out worldwide). With the Apple Card, a physical version does not come to you by default – you must request a titanium card. The driver's licence feature is different, because it requires scanning the details from a physical licence first. But in both cases, it's possible to rely totally on your phone – to not know where the card version is because you rely on the phone.

With Apple Card, you don't get a physical version by default. Would I ever go card-free? Not without some guarantees...

Don't forget your iPhone can already replace your car keys. And hotel keys. And can be your transport card for public transport. And vaccine passport. These won't be the last of the essential functions that the iPhone can 'be', and obviously having them all in one place is incredibly useful... until you lose it.

In the past, the fact that your digital life was backed up to iCloud was fine for when you lost a phone – the info would come back whenever you got a new one.

Do you trust that you can go to a situation where ID is necessary, but you don't need your real card at all...?

But I'm starting to think that if Apple wants people to invest in using the iPhone as the centre for all your life, it needs to think about stronger reassurances for loss or theft.

Should buying on Apple's upgrade program include an AppleCare option for on-the-spot loss and theft replacement (or overnight delivery of a replacement at the latest if you can't get to a store)? Or at the very least, a loaner program during these times, or if a repair is needed?

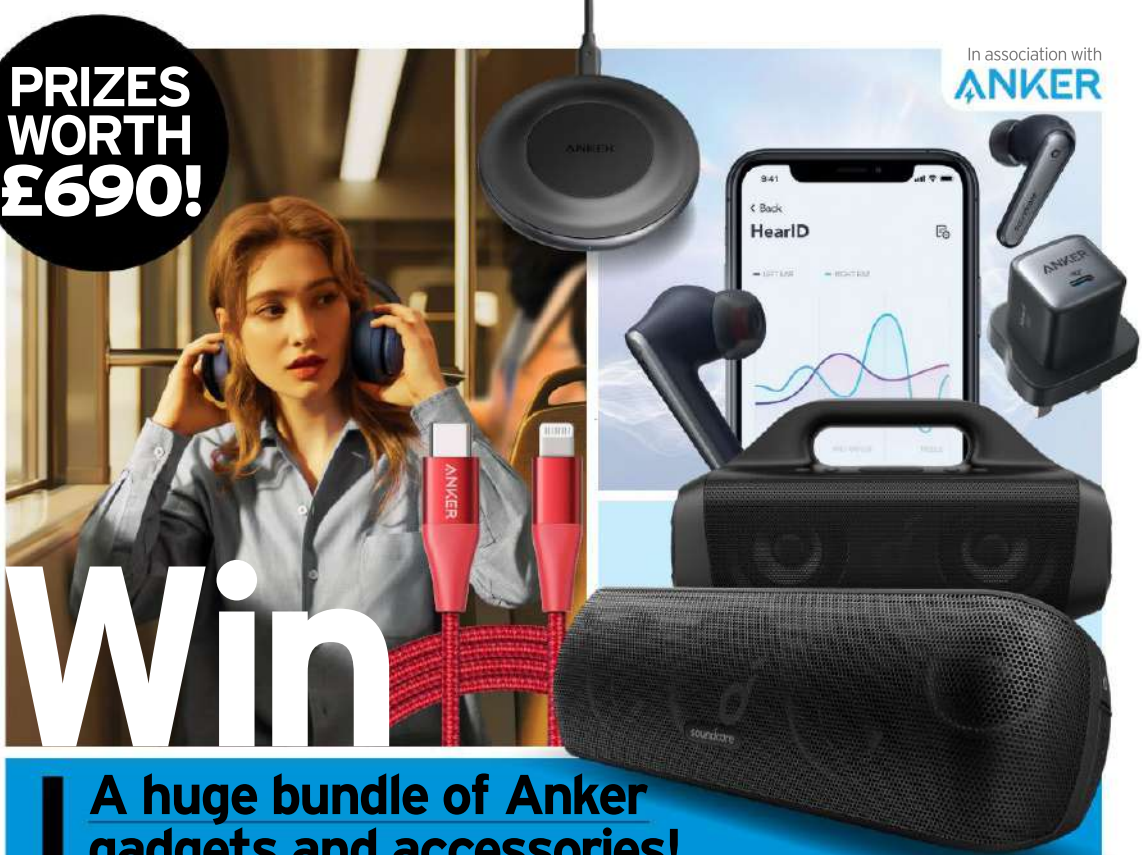
If the iPhone is to become as vital to our infrastructure as, say, the car then we need the same kind of backup options that we offer to drivers for when things go wrong. We have loan vehicles, taxis, and so on. To really rely on the iPhone in the future, we need to know Apple will have our backs.

ABOUT MATT BOLTON

Matt is the editor for Apple and home tech at *T3* and has been charting changes at Apple since his student days. He's sceptical of tech industry hyperbole, but still gets warm and fuzzy on hearing "one more thing".

In association with ANKER

PRIZES WORTH £690!



Win

A huge bundle of Anker gadgets and accessories!

If you have ever felt like your Apple devices could do with some better accessories, you are in luck, because this issue one lucky reader will win the ultimate gadget bundle from Anker.

This issue's prize is overflowing with great products. For starters, we're giving away a Soundcore Motion+ speaker, which won *MF368*'s group test thanks to its superb audio quality and rugged waterproofing. That's not all when it comes to audio – our bundle doubles down here, adding in two Soundcore Motion Boom speakers that can be paired for stereo sound. We're also giving away a pair of Soundcore Life Q35 wireless headphones with active noise cancellation, plus a pair of Liberty Air 2 Pro wireless earbuds.

Want more? You've got it. Our bundle comes with the Anker Nano II USB-C wall charger in 30W, 45W and 65W flavours, and a wireless charging pad to speedily juice up your devices. Those accessories should keep you powered up when you need it, and they're aided by the excellent cables we've thrown in too. Rounding out the prize are the PowerLine+ II USB-C to Lightning cable, which is braided to give it added protection, plus the PowerLine III Flow USB-C to USB-C cable, which can carry up to 100W to keep even the most power-hungry MacBook topped up.

With all those goodies in this issue's prize bundle, there is something to enhance almost every device. Your Apple products will never have been treated so well.

THE QUESTION

To be in with a chance of winning the ultimate Anker accessory bundle, just answer this question:

How much power can the Anker PowerLine III Flow USB-C cable carry?

A) 30W
B) 87W
C) 100W

For more information about Anker's products for your Apple devices, including its Soundcore speakers and headphones, head to the company's website at **uk.anker.com**.

HOW TO ENTER...

- To enter, you can visit our website at **bit.ly/MFAnker** (web address is case sensitive).
- For full terms and conditions, go to **bit.ly/MFAnker**. By sending your entry, you agree to these competition rules and confirm you're happy to receive details of future offers and promotions from Future Publishing Limited and carefully selected third parties, if you have given us permission to do so on the entry form.
- This competition closes on **18 October 2021**. Over 18, GB residents only.
- The winner's details will be shared with Anker for the purpose of providing prizes.

For our latest subscription offer see page 34!

Mac FORMAT

INVESTIGATES

Apple's photo-scanning plans

Apple has dramatically paused plans designed to promote child safety and stop the spread of known Child Sexual Abuse Material. Here we explain what it had in mind, and why the new features proved so controversial...

WRITTEN BY **CHARLOTTE HENRY**

Apple was mired in controversy when, in August, it announced plans to scan for collections of known Child Sexual Abuse Material (CSAM) on iCloud Photos, along with other child safety measures in Messages. Yet weeks later, it changed tack, pausing both programmes to "take additional time to collect input and make improvements before releasing these critically important child safety features."

The timing of Apple's August announcements certainly caused confusion. It was the CSAM scanning that provoked the biggest backlash from privacy advocates, with the American digital rights campaign organisation the Electronic Frontier Foundation calling it a "backdoor to your private life."

What was Apple doing?

The important thing to note was that CSAM detection for iCloud Photos was intended to look for matches to known CSAM images. These matches were to have been acquired and validated as CSAM by a minimum of two child safety organisations, meaning innocent things like a parent taking a funny picture of their baby in the bath would not have been picked up.

The database of CSAM images was never going to be downloaded to a user's iPhone either. Instead, a database of cryptographic hashes based on those images was. Apple called this system NeuralHash.

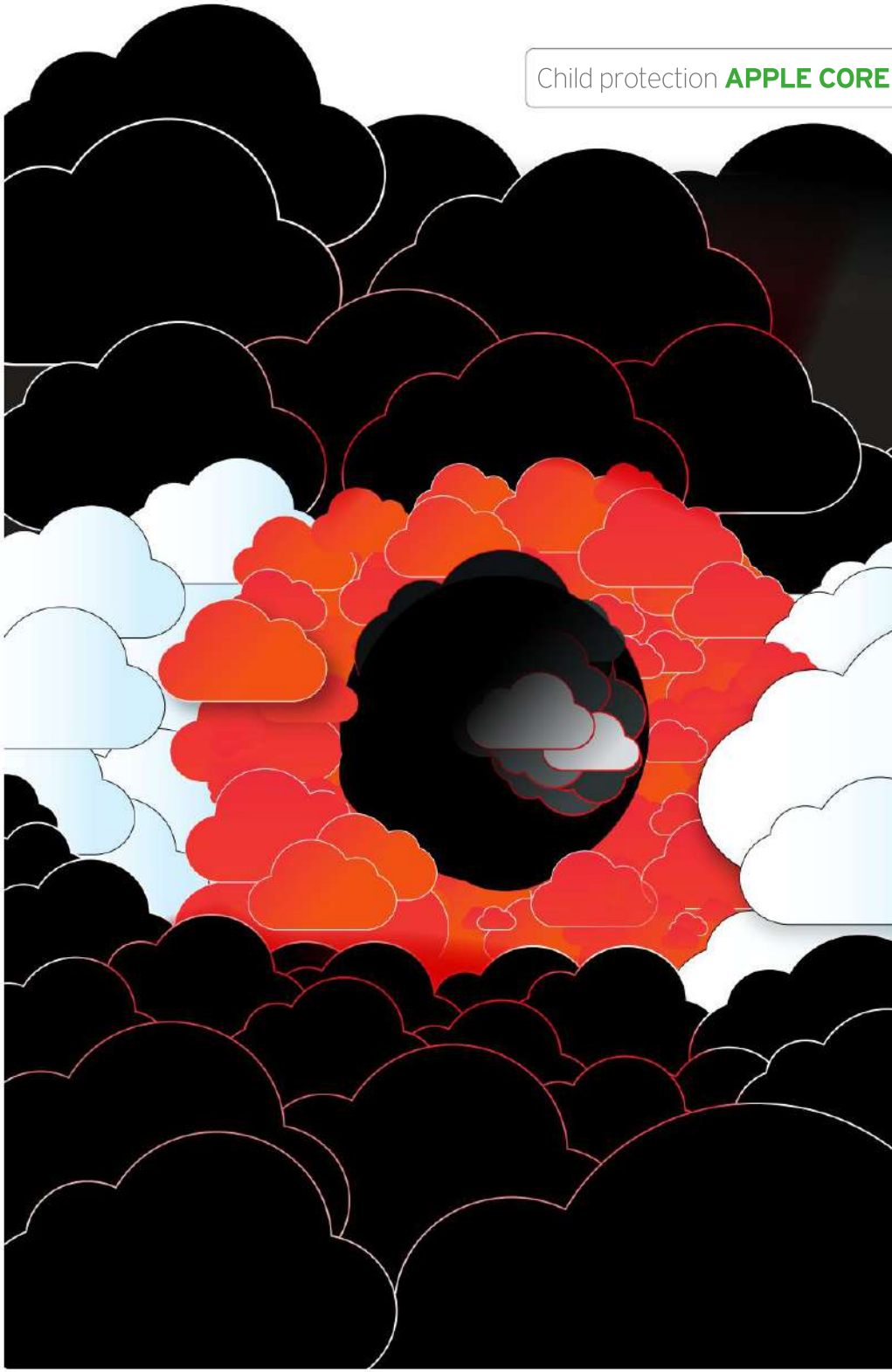
The aim was to check whether on-device images matched known CSAM. If collections of known CSAM images were found, Apple would have been alerted. When that happened, the company would have conducted a human review – so an actual person would have checked to see if there had not been an error. If a match was found to be correct, Apple would then have filed a report with The National Center for Missing & Exploited Children (NCMEC), an American non-profit.

In a support document, Apple said "in a case where the system identifies photos that do not match known CSAM images, the account would not be disabled, and no report would be filed to NCMEC." The company also said that it would not add to the database of known CSAM hashes, but that it was "obligated to report any instances we learn of to the appropriate authorities."

This was only going to happen to photos being uploaded to iCloud Photos, not the private on-device iPhone photo library, nor anywhere else you might store images on a device. Turning off iCloud Photos deactivated the process.

Why the controversy?

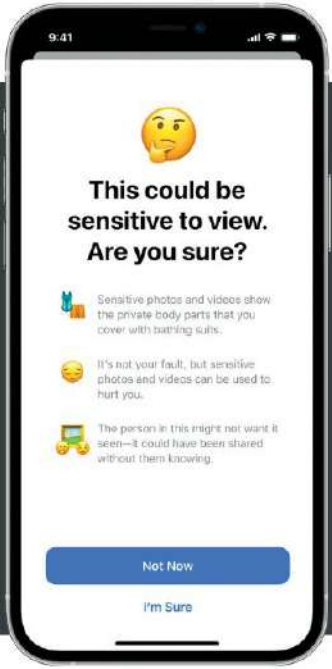
One might think that stopping the sharing of child abuse images is a worthy aim. And it obviously is. The row was about whether the end justified the means, and whether there was a



9:41
Helping with Communication Safety
Apple products can help protect kids from sending or viewing photos that may be sensitive, with resources to guide them.
On-device intelligence can detect potentially sexually explicit photos in Messages, and provide a two-step intervention to help a child make a choice whether to send or view them. Apple does not get access to the photos.
Continue
Not Now

New Communication Safety features in Messages provide extra protection on children's accounts.

If a child is sent a sexually explicit image, it is greyed out and must be clicked to display.


9:41
This could be sensitive to view. Are you sure?
Sensitive photos and videos show the private body parts that you cover with bathing suits.
It's not your fault, but sensitive photos and videos can be used to hurt you.
The person in this might not want it seen—it could have been shared without them knowing.
Not Now
I'm Sure

If clicked, Messages will warn children that the image could be upsetting or inappropriate.

slippery slope into Apple scanning for other material, illegal or otherwise. Furthermore, the idea that Apple, or any tech company, was scanning images in any way is, ultimately, an invasion of privacy.

While other tech companies have had similar systems for a while, Apple's plans were particularly controversial. In recent years the company has ramped up its rhetoric around privacy, not least with its "Privacy, That's iPhone" advertising campaign.

How does Apple justify it?

Apple has long insisted that on-device processing preserves user privacy better than server-side processing. Erik Neuenschwander, head of Privacy at Apple, told TechCrunch that the on-device system being introduced was "really the alternative to where users' libraries have to be processed on a server that is less private.

"The thing that we can say with this system is that it leaves privacy completely undisturbed for every other user who's not into this illegal behaviour," he added.

Neuenschwander also explained why there was a threshold for Apple issuing a report – the system is supposed to be triggered by a collection of known CSAM, not an individual image. Surely though, having just one such image is one too many? "We want to ensure that the reports that we make are high-value and actionable, and one of the notions of all systems is that there's some uncertainty built in to whether or not that image matched," he argued. "The threshold allows us to reach that point where we expect a false reporting rate...

Updates to Siri in iOS 15, iPadOS 15, watchOS 8 and macOS Monterey will allow users to file reports about CSAM.

9:41
It's your choice, but your parents want to know you're safe.
If you decide to view this, your parents will get a notification to make sure you're OK.
Don't share anything you don't want to. Talk to someone you trust if you feel pressured.
You're not alone, and can always get help here.
Don't View Photo
View Photo

For children aged up to 12, if the image is displayed then their parents will be notified.

of one in 1 trillion accounts per year." Apple's privacy chief also insisted that the structure of the system meant it would be almost impossible for law enforcement or other agencies to demand Apple scan for material beyond known illegal CSAM.

Does it matter in Europe?

Despite all the fuss, the CSAM scanning proposals were only set to take place in the US. However, it is hard to imagine that once the system got rolled out Stateside that it would not have been deployed elsewhere.

No surprise then that the backlash beyond the US began quickly. In the UK, Heather Burns, Policy Manager at the Open Rights Group, told *MacFormat*:

"The threat of Apple's CSAM scanning system opening the gates to the scanning and monitoring of our private conversations, for subjective purposes, is not theoretical. The UK's upcoming Online Safety Bill outwardly aims to remove encryption from our private messages, and to oblige service providers to detect, intercept, and remove a range of both illegal and legal content and behaviour from them, under the threats of service restrictions, penalties, and even criminal charges for company employees if they fail to do so. So it is a matter of not if, but when the UK government will order Apple to expand its scanning system from CSAM to our private behaviours and personal speech, and Apple will have no choice but to comply."

German journalists also raised concerns, saying that the moves were a "violation of the freedom of the press." German politicians followed up shortly after, writing to Apple CEO Tim Cook. The country's Digital Agenda committee chairman Manuel Höferlin pulled no punches in the letter, calling the moves the "biggest breach of the dam for the confidentiality of communication that we have seen since the invention of the internet."

Material depicting the sexual abuse of children is illegal.
Anonymous helplines and guidance exist for adults with at-risk thoughts and behavior.
Learn more and get help

Search is also updated, offering support and resources to anyone attempting to search for anything CSAM related.

Hey Siri, are you involved in any of this? ›

› **Child protection updates were due come to Siri and Search in iOS 15, iPadOS 15, watchOS 8 and macOS Monterey.** They were be expanded to offer additional resources to help both children and parents stay safe online and get help with unsafe situations. Users would then have be able to ask Siri how they could report CSAM or child exploitation and be given guidance on where and how to file a report.

Furthermore, if you searched for something related to CSAM Siri would have intervened, telling you that interest in this area was harmful and problematic. It would also have provided resources for you to get help.

Despite its noble intentions – stopping the spread of known CSAM and protecting children online – Apple's moves proved controversial. It has always had a tough balancing act to perform, protecting users whilst upholding its core commitment to privacy. Now though, however much Apple insists that it is sticking to its privacy-first principles, these announcements are likely to be thrown back at it every time it mentions the issue.

What about Messages?

New child protection measures were also announced for Messages in iOS 15, iPadOS 15, watchOS 8, and macOS Monterey. Called Communication Safety in Messages, they applied only to iCloud Family accounts. If a child had received a sexually explicit image the photo would have been blurred, while the child would have been sent a warning accompanied by resources and assurances that it was okay to not view the photo. The system also allowed parents of children 12 and under to get a message if the child viewed the image and to be warned if a child attempted to send explicit photos.

Although separate to CSAM scanning, the new protections would also have used on-device machine learning to analyse image attachments and determine whether a photo was explicit. However, at the time of writing, this programme is also now on pause.

iOS 15 SUPERGUIDE

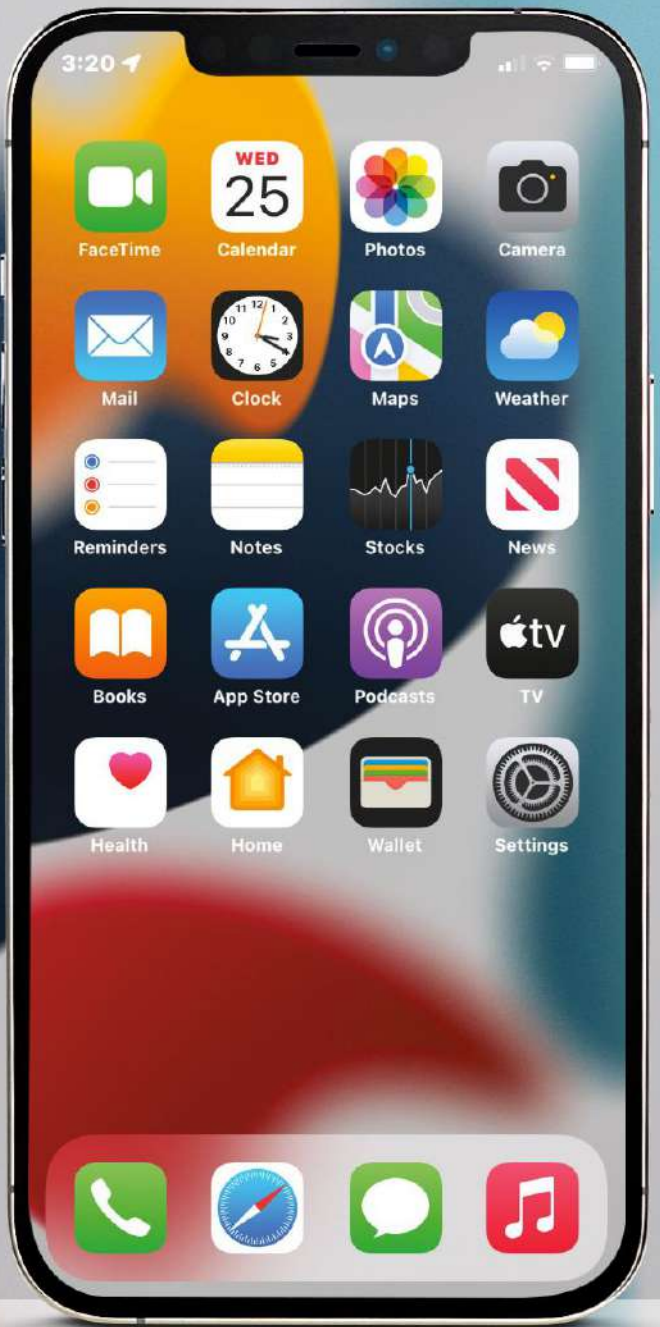
iOS 15 is packed with new features and improvements. We'll tell you about the best and show you how to use them

Written by Kenny Hemphill

We're now a year and a half into a pandemic, and with many of us still working remotely, the overarching theme of iOS 15 is communication. What may be a surprise – although perhaps not, given that this is Apple – is that the communication is social, rather than business focused.

As with macOS Monterey, the chief beneficiary of the iOS update is FaceTime. And, just like on the Mac, FaceTime in iOS gets SharePlay (although not until later in the year in an update to iOS 15), Grid View, and the ability to invite friends who don't own Apple devices to join the conversation. Elsewhere, several of the other new features are the same as those on the Mac. So there's a new Focus mode and Live Text. And, of course, the new iCloud+ features – Private Relay and Hide My Email – are incorporated into iOS 15.

There are some iOS-only new features too, including revamped notifications, which now look better and can be delivered en masse to a schedule you set. Read on to dig deep into iOS 15.



Which devices will work with iOS 15?

The good news is that if your iPhone was compatible with iOS 14, it will run iOS 15. The list of devices on which Apple supports iOS 15 is identical to those for iOS 14. However, there is a caveat. Some features, such as Live Text and on-device Siri processing, need at least an A12 Bionic processor. In effect, that means iPhones made in 2018, such as the XR and XS, along with the iPhone 11 and 12 ranges, and the second-gen iPhone SE.

Here's the full list of compatible devices

iPhone 12
iPhone 12 mini
iPhone 12 Pro
iPhone 12 Pro Max
iPhone 11
iPhone 11 Pro
iPhone 11 Pro Max
iPhone XS
iPhone XS Max
iPhone XR
iPhone X
iPhone 8
iPhone 8 Plus
iPhone 7
iPhone 7 Plus
iPhone 6s
iPhone 6s Plus
iPhone SE (first generation)
iPhone SE (second generation)
iPod touch (seventh generation)

FaceTime, Messages and Memoji

FaceTime gets a social boost with SharePlay, photos are better in Messages, and there are new Memoji accessories

What's new in FaceTime

The headline new feature in FaceTime is SharePlay, which enables you to hold watching or listening parties on group calls with friends. When you watch a movie or TV programme, playback and controls are synced, and when someone on the call speaks, the video volume dips. SharePlay also enables you to share your screen with others on the call. However, SharePlay won't be available at launch as planned and will now appear as an update.

Grid View enables you to see participants tiled on the screen, and spatial audio makes it sound like a person's voice is coming from their position on screen. Portrait mode allows you to blur your background, and you can now invite friends who don't have an Apple device, by sending them a link that opens the call in a web browser.

Portrait mode allows you to blur the background in FaceTime, so you can hide that messy bedroom.

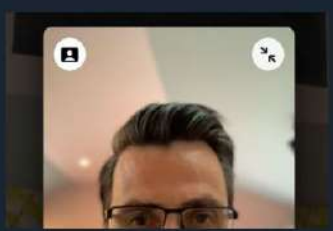
What's new in Messages

Messages got a hefty upgrade in iOS 14, and this time around the changes are more modest. Links, images and other content sent to you in Messages now appear in a Shared with You section in the relevant app. For example, if the content is an Apple News story, it appears in Apple News. If it's a web link, it will appear in Safari. And multiple photos sent in a message are now stacked. You can swipe through them, tap to view them as a grid, or save them to your Photos Library. The animation when you swipe through images is reminiscent of riffling through a deck of cards – emphasised by the rounded rectangular shape of the images. It's a much more elegant way to deal with multiple photos than displaying them one above the other as they are sent.

HOW TO Use the new FaceTime features ›

1 Use Portrait mode

Launch FaceTime and tap or search for a contact, then tap the camera icon. When the call has started, you'll see the image from your camera at the bottom left. Tap it to enlarge it and you'll see four icons in the corners.



2 Blur your background

The icons are, from top left, Portrait, Minimise, Switch Camera, and Effects. Tap Portrait and your background will blur (handy for messy living spaces). If you tap the Effects button, you can swap your face for a Memoji or Animoji.

3 Create a link

To FaceTime with someone who doesn't have an Apple device, you need to create a link to send them. Tap the FaceTime app, then tap Create Link. In the sheet that appears, tap Add Name. Type a name for the call. Tap OK.

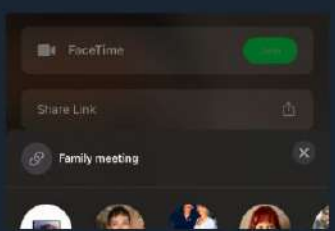
When multiple images are sent in a Message, they are now stacked like cards and you can swipe through them.

What's new in Memoji

Memoji have become hugely popular since they were first introduced on the iPhone X, both in their animated form, where they change as your facial expression changes, and as stickers. In iOS 15, Apple has added customisable outfits in up to three different colours, accessibility options such as cochlear implants, oxygen tubes and soft helmets, and multi-coloured headwear. There are also new stickers that enable you to send gestures such as a hand wave or light bulb moment, and you can now select a different colour for each eye. There are also new options for spectacles including heart- and star-shaped glasses.

Animated Memoji can be used in FaceTime or Messages – where you create a video of up to 30 seconds to send to a recipient – and Memoji Stickers can be used in any app that takes text input.

Memoji now has additional options for spectacles, as well as new gestures and clothing.

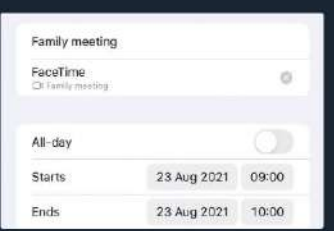


4 Share the link

Once the link has been created, you can share it by tapping one of the suggested contacts in the share sheet, then tap one of the suggested apps to share it from there, or copy it using the Copy button on the share sheet.

5 Start the call

The link will appear on the FaceTime main screen under Upcoming. Tap it, then tap Join to join the call. If there is no one else in the call, you will see a message saying 'Waiting for others to call.' Otherwise, you'll join the call.



6 Schedule a call

Links are useful for scheduling calls. Create one, copy it to the clipboard, then create an event in your preferred calendar app. Paste the link into the event and set a notification for the event time. You then just need to tap the link.

Safari, Live Text and iCloud+

The update to Safari is already proving to be controversial, and it's easy to see why

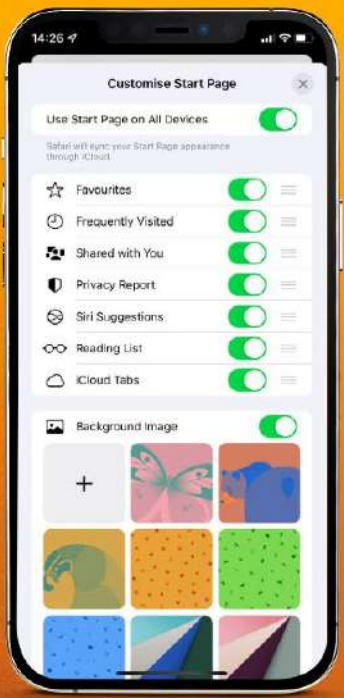
What's new in Safari

When Apple announced iOS 15 back in June, one of the biggest changes to the interface was in Safari. Just like in macOS Monterey, the URL bar (or tab bar as Apple now calls it) hosts both the address field/search bar and the button for switching tabs. However, unlike Monterey, where it still sits at the top of the page, it moved and initially hovered above the web page at the bottom of the screen. The immediate consequence was that the design hid the reload and Reader view buttons, much to the bemusement of many early preview users. Since then, Apple has made changes so that the reload button is visible, and the Reader view control appears when that mode is available. More importantly, the bar now sits below the web page. And there is now an option in Settings to place it back at the top of the screen.

There's support for tab groups in iOS 15, and these sync across all your devices, so if you use Monterey or iPadOS 15, you'll be able to see groups of tabs you set up on your iPhone, and vice versa. Tab groups can be renamed, and are selected from a menu that appears at the bottom of the screen.

Safari in iOS 15 also now supports extensions, so if you use, for example, Grammarly, or a clipper extension for a notebook app, you'll be able to use those on your iPhone. And you can search the web in Safari using your voice. There's also a new start page, similar to the customisable start page introduced in macOS Big Sur.

By default, the tab bar in Safari now appears at the bottom of the screen, below the web page.



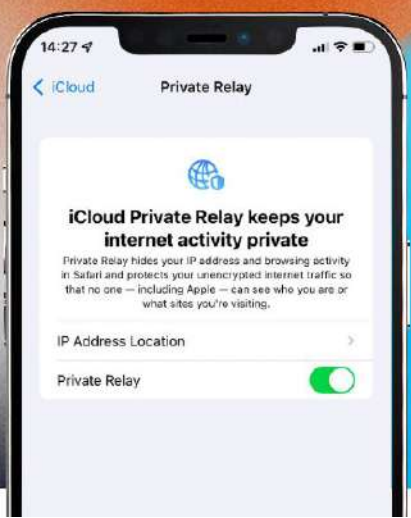
Safari in iOS has a new, customisable start page similar to the one on the Mac.

What's new in iCloud+

It's been a while since Apple did anything significant with iCloud, and it's questionable whether the new features merit the addition of the '+' to its name. Nevertheless, they are welcome. Perhaps the most important is Private Relay which encrypts traffic from your device when you're using Safari and routes it through two relays so that no can see your IP address, location or web browsing activity.

Hide My Email, which is built into Mail, Safari, and iCloud settings, enables you to create 'throwaway' email addresses to use when you sign up for newsletters or enter competitions online, to avoid giving out your main address.

The third part of iCloud+ is storage for recordings from HomeKit security cameras. The storage tiers in iCloud now include an allowance specifically for these recordings.


14:27
iCloud
Private Relay
iCloud Private Relay keeps your internet activity private
Private Relay hides your IP address and browsing activity in Safari and protects your unencrypted internet traffic so that no one — including Apple — can see who you are or what sites you're visiting.
IP Address Location
Private Relay

Private Relay in iCloud+ encrypts all internet traffic from your devices and routes it through relay servers.

Protecting your privacy

Apple has made privacy a high priority in recent years and this update is no exception. There are a number of privacy measures in iOS 15 besides those in iCloud+. Mail Privacy Protection hides your IP address so senders can't see your location or link it to other activity. And senders are preventing from seeing whether you have opened a message.

App Privacy reports enable you to see how apps are using the permissions you have granted them and also which third-party domains they contact. You can also see how recently they've contacted those domains.

And on-device audio processing in Siri (if you have an iPhone with an A12 Bionic chip or later) means that the audio never leaves your device.

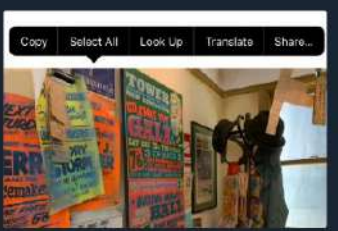
16:35
Back
OPEN
App Privacy
See Details
The developer, Flexibits Inc., indicated that the app's privacy practices may include handling of data as described below. For more information, see the developer's privacy policy.
Data Linked to You
The following data may be collected and linked to your identity:
Contact Info
User Content
Identifiers
Diagnostics

You'll be able to see just what data apps are looking to collect from you.

HOW TO Get started with Live Text ›

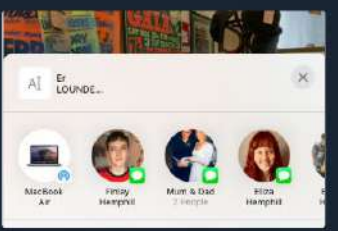
1 Grab text from a photo

Tap Photos and scroll through your library until you find an image with text you want to copy. Tap and hold on the text you want to select and drag the selection handles so that they cover all of the text you want to use.



2 Use all text in an image

Instead of manually selecting text, you can select all the text in an image that iOS recognises. To do that, when you tap and hold on text, instead of dragging the selection handles, tap Select all in the menu.



3 Copy or share text

Once you've selected the text you want, you can interact with it just as you would any text, so you can tap Copy to copy it to the clipboard, Look Up to see suggestions collected by iOS, Translate it, or share it with share sheets.

4 Use Live Text in Safari

Live Text works with images on the web, too. Find an image with text you want to use in Safari. Tap the image and choose Find Text. The image will move centre screen. Tap and hold to see the selection and follow Step 1 or 2.

5 Use Live Text in Camera

This is supported in iPhone XS onwards. Open the Camera app and point the camera at something with text on it. Tap the Live Text button at the bottom left. You can now select and interact with the text.

6 Use Live Text in Notes

Although not highlighted by Apple, Live Text also works in Notes. Tap and hold anywhere on a note, then choose the Live Text button. Point the camera at the text you want to capture, and press Insert.

Photos, Music, TV and more

Memories are a great way of rediscovering forgotten photos, and now they're even better

What's new in Photos

Most of the improvements in the Photos app are for Memories, one of the ways in which Apple surfaces photos you may not have seen for a while and packages them up as a slideshow.

There has always been a degree of customisation available in Memories, but iOS 15 takes it much further. It adds lots of new songs to choose from as a soundtrack, and if you subscribe to Apple Music you can choose from tens of millions of songs in the Apple Music library. The Apple Music integration goes beyond just allowing you to choose songs from its library, however. It will make personalised suggestions by combining curated suggestions from 'experts' with your listening habits and the content of your photos. For example, it might suggest songs that were popular at the time the photos were taken, or in the location, or from an artist you saw at a concert where you took the photos.

Pet project

There are more memory types now, too, including child-focused memories, trends over time, and pet memories that recognise individual dogs and cats.

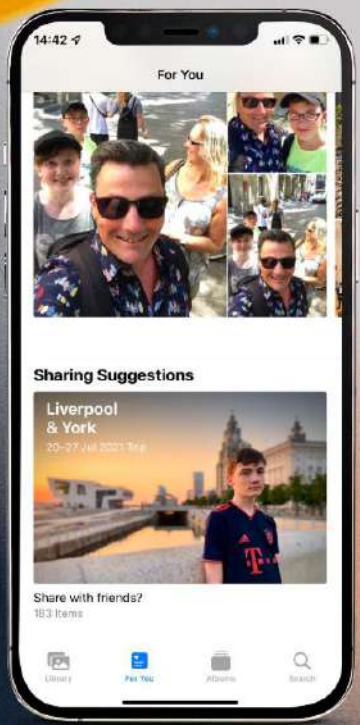
You can now change the Looks of Memories using one of the filters Apple has added to Photos.

When you choose photos to send in Messages, they now send in the order you select them.

Memories enables you to pause, replay the last photo, or jump ahead. The music adjusts automatically so that transitions always happen on the beat. You can also change a song, or remove photos, or change the Memory Look, and it all happens in real time.

Talking of Memory Looks, there are 12 which Apple says are inspired by 'the art of cinematography'. They analyse each photo and video in a memory and apply contrast and colour adjustments so that they all have the same look.

Photos also gets the new 'Shared with You' section that displays photos and videos that have been shared with you in Messages. You can choose to save them from there to your Library. The new info pane in Photos will tell you who sent the photo or video.



Sharing is a big part of iOS 15 and Photos now suggests photos for you to share.

The way in which third-party apps work with Photos has also been improved. The image picker that enables you to choose photos from your library in apps like Messages, now allows you to specify the order in which they will be sent. And when you grant apps access to specific photos in your library, the apps can offer simpler selection workflows.

One new feature that will be welcomed by anyone who has waited days for iCloud Photo Library to sync on a new device is that the initial iCloud sync is now faster, according to Apple.

What's new in Music, TV, Podcasts and Books

The updates to Music, TV, Podcasts and Books are refinements rather than major changes and focus on adding support for technologies and features that have been added elsewhere in iOS. Apple says that iOS 15 brings "an even more immersive experience of Dolby Atmos music with Apple's dynamic head tracking." Perhaps more interesting is a 'spatialise stereo' feature that turned up in a beta of iOS 15. This simulates 3D audio in Music, TV and third-party video and music apps where the content isn't encoded with Dolby Atmos. You'll need AirPods Pro or AirPods Max to take advange of spatial audio, although Dolby Atmos tracks will work with any headphones. The Music update also support using tracks from your Music Library in Photos' Memories.

Music, TV and Podcasts also get support for Shared with You, which displays content other people have shared with you in Messages, and for SharePlay, when that eventually launches.

Books gets a new search engine that corrects spelling mistakes as you type, showcases collections of books in results, and enables you to buy books from the search tab.

HOW TO Customise your Memories ›

1 Choose different photos

Launch Photos. Tap For You. Next to Memories, tap See All. Scroll to the Memory you want to customise. Tap it to play, then tap the circular '... icon. Tap Manage Photos, then tap a photo to select or deselect it. Tap Done.

2 Audition new Looks

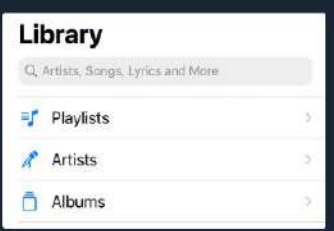
Select the Memory you want to customise. Tap it and while it's playing, tap it again. Tap the musical note icon at the bottom left of the screen. Swipe left to scroll through Looks to see them and hear suggested music.

3 Choose a new Look

You can tap a Look to select it and the suggested music. Or, tap the three overlapping circles at the bottom right to see all Memory Looks. Tap one to select it, then tap Done. This time, the music won't change to match the Look.

4 Choose new music

Select the Memory whose music you want to change. Play it and tap it, then tap the musical note at the bottom left. Next, tap the musical note with the '+' on it. There are three categories curated by Apple; tap See All to explore.



5 Add a new track

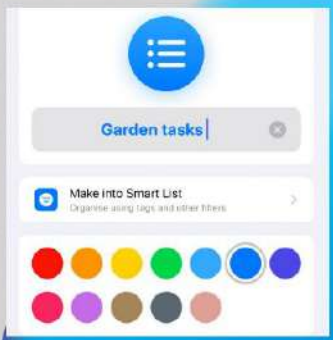
Tap a song to choose it, then tap the back arrow and tap Done. Alternatively, to choose your own track from Apple Music, tap the magnifying glass and either search your Library, or use the categories to find a track.

6 Skip photos

While you're playing a Memory, you can skip ahead or back to a different photo. While the Memory is playing, tap the screen. You'll see thumbnails of the photos appear. Tap one to skip to it, or swipe over them to scroll, then choose.

Focus, Notifications, Reminders and more

Fed up with distractions while you're trying to concentrate? The new Focus feature is for you



What's new in Focus

Do Not Disturb has long allowed you to switch off notifications during hours you specify. Now, Focus goes further, enabling you to filter notifications based on what you're currently doing. When you set up a Focus, iOS will make suggestions based on your past activity. You can even create a Home Screen that shows only those apps you need while focusing. And your iPhone will use signals like time of day or your location to suggest a Focus to turn on. If someone you've chosen not to receive messages from tries to contact you while a Focus is active, they'll get a message telling them that your notifications are off. But they will still be able to get through to you with an urgent message.

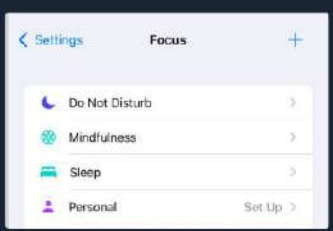
What's new in Notifications

Notifications in iOS 15 have a completely new look that includes profile photos for people who contact you and larger icons for app notifications. You can choose to receive a daily digest of notifications in the morning, evening or at a time you specify, so you can catch up on those you missed while Focus was active. Developers can specify notifications as time sensitive, for example, those telling you a Deliveroo driver is on their way. And those notifications will be delivered immediately, no matter your settings. If you're involved in a Messages group conversation but haven't been active in it for a while, iOS 15 will suggest you mute it.

What's new in Reminders

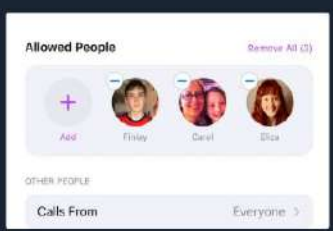
Reminders, like Notes, gets support for tags, enabling you to tag reminders so that you can find them easily. And you can filter reminders by one or more tags. Tags can also be used in the new Custom Smart Lists. This feature allows you to create lists of reminders based on parameters you specify such as tag, time, location, flag, or priority. Reminders also gets improved natural language support that understands phrases like 'every other morning'. And you can have Siri announce Reminders if you're wearing AirPods or compatible Beats headphones. Apple has made it easier to delete completed reminders, and added suggested attributes such as tags and people when you create a reminder.

HOW TO Improve your focus with Focus >



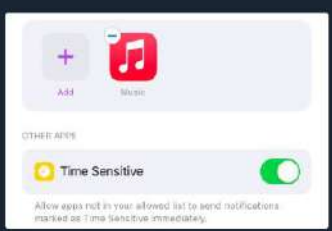
1 Activate Focus

Go to Settings and tap Focus. Toggle the switch to choose whether to sync the Focus status across your devices. Tap Do Not Disturb or Sleep, then tap People to specify notifications from contacts that can override Focus.



2 Choose people

Tap the '+' and then check the box next to contacts in the list that appears to allow notifications from them. Tap Calls From, if you want to be able to receive calls from specific contacts while Focus is switched on. Tap Done.



3 Choose Apps

Tap Apps, then tap the '+'. Check the box next to the apps whose notifications you want to allow to override the Focus. Tap Done. To allow time-sensitive notifications, such as those from delivery apps, toggle Time Sensitive to on.

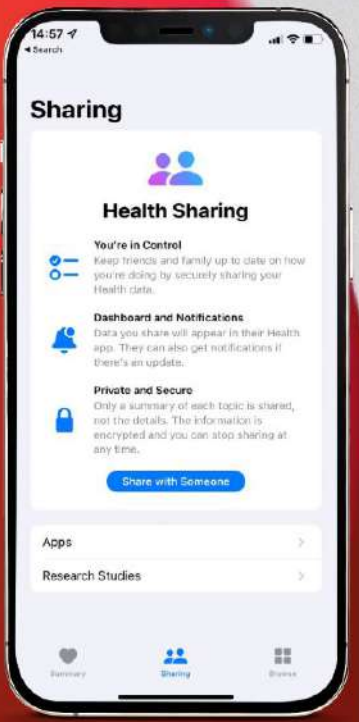
What's new in Notes

The biggest new feature in Notes on Mac and iPad is Quick Notes, which allows you to create notes from applications like Safari. You can't create Quick Notes in iOS 15, but you can read and edit those created on your Mac or iPad. Notes also has support for tags, including Custom Smart Folders which collect and display notes based on their tags. An activity view allows you to see changes that have been made to shared notes since the last time you checked. There's a summary of updates, and a day-by-day list of changes made by each contributor. And collaboration has been improved further with the addition of 'mentions'. If you '@' someone in a note, they will be notified and sent a link to the note.

What's new in Health

Health in iOS 15 gets several new features, mostly designed to let others access your health data in a way that you control. For example, you could choose to share data on your heart health and vital signs with a family member or carer. When you share, for example, heart health data with someone else, they get notifications when something significant changes. And you can also choose to send them notifications for significant changes in other categories. Trend analysis allows you to see how a metric you choose is progressing over time, and you can choose to receive a notification when a new trend is detected. You can share trend information with others over Messages, a feature that may help health professionals with remote consultations.

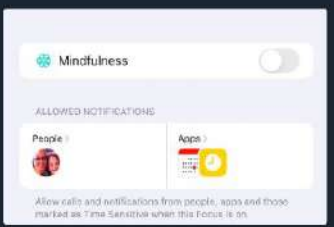
Finally, there's a new walking steadiness metric that analyses your gait, balance, and strength and assesses your risk of falling.


14:57
Search
Sharing
Health Sharing
You're in Control
Keep friends and family up to date on how you're doing by securely sharing your Health data.
Dashboard and Notifications
Data you share will appear in their Health app. They can also get notifications if there's an update.
Private and Secure
Only a summary of each topic is shared, not the details. The information is encrypted and you can stop sharing at any time.
Share with Someone
Apps
Research Studies

The Health app gets new features to allow you to share data with other people such as a family member or GP.

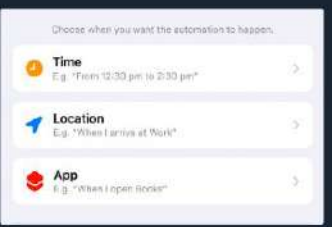
4 Add an activity Focus

Return to the main Focus screen. Tap the '+'. You'll see a list of activities, tap one to choose it. Tap Next. Choose people as we did in Step 2, and choose who to allow calls from. Tap Allow. Do the same for apps. Tap Allow.



5 Complete Focus set-up

The next stage is dependent on the activity. For Mindfulness, you can choose Turn on Mindfulness automatically, or tap Skip. Tap Done. Tap Home Screen to set custom Home Pages when the Focus is activated.



6 Schedule a Focus

Return to the main Focus screen. Tap the Focus. Tap Add Schedule or Automation. Choose Time, Location, or App. Specify the time of day, the location or the app. Alternatively, you can turn Focus on from Control Centre.

What's new in Maps

Explore the world in glorious 3D or use augmented reality to help find your way

Maps' headline new features take advantage of the latest hardware, and so are only available to those iPhones that have an A12 Bionic chip or better. However, if you have an iPhone that's capable of using them, the 3D interactive features look terrific. There's a 3D globe that you can spin and zoom in and out of, plus you can explore deserts, forests, oceans, mountain ranges and more. To use it, just choose satellite view and use two fingers to zoom out of the area you're currently viewing until you see the Earth as a globe, then use one finger to spin it. The new city experiences allow you to explore some cities like San Francisco, Paris, and London in 3D. You can fly over and around landmarks and see them in detail in both daytime and night modes.

In Maps, you can spin a 3D globe and zoom in on deserts, forests, rivers and cities.

City experiences have been enhanced meaning you can now see even more detail of the likes of London and New York City.

Road routes

Driving instructions, available on all supported devices, have been beefed up too. There's more detail given for filter lanes, cycle, bus and taxi lanes, central reservations, and crossings. When you're in driving mode and approach a complicated junction, the screen switches to a 3D view at road level to enable you to see exactly where you need to go.

Top of the new features, though, are the immersive walking directions. These use augmented reality (AR) and so need an A12 Bionic chip or better. Here's how it works: hold up your iPhone so that the streets and buildings around you are in view on the screen. The walking directions are then shown overlaid on the live camera view on the iPhone screen.

There are improved public transport features, too, which have been designed in conjunction with the new city experiences. Key bus routes are highlighted, and it's now easier to see your route while you're travelling, and interact with it on-screen with one hand – something that could be important when you're getting on and off buses or trains. Maps will also notify you when you are approaching your stop. If you travel frequently, you can pin your favourite train lines so they show up first when they are nearby. And you can now quickly access departures that are close to your location.

Search has been beefed up, so, for example, you can now filter restaurants by the style of food they offer, or elect to see only establishments that are currently open.

Finally, the curated guides that were introduced in iOS 14 have been improved and made easier to find and use.

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The best of the rest

Accessibility, Siri, HomeKit and CarPlay have all been improved in iOS 15

What's new in the Find My network

Find My Friends now streams the location data for friend and family members (who you're sharing with) so you get a live update of their position. It can also now find a device that has been turned off or whose battery has run out of charge, and it can find devices that have been wiped by a thief. In addition, it can find AirPods Pro or Max, even if they're out of Bluetooth range of your iPhone. And you can now choose to be alerted if your devices, including AirTags and supported third-party accessories, get left behind.

While the features we've covered over the last few pages are undoubtedly the most exciting, there are a wealth of other updates and improvements in iOS 15.

Wallet gets lots of new features for supported HomeKit hardware, cars, offices, and hotel rooms. All of them require an iPhone XS or later. You can store 'keys' for HomeKit-enabled smart door locks and then tap your iPhone, or Apple Watch if you have one, on the lock to open or lock it. When you make a reservation at a hotel with a supported door entry system, you can add your room key to Wallet and access the room using your iPhone. Similarly, in offices that support it, Wallet can act as your office pass, allowing you to access the building by tapping your phone rather than your physical pass.

Perhaps the most interesting additions, however, are for car keys. When you store your car keys in Wallet, you can unlock your car, beep your horn or open the boot as you approach the car. Or lock it as you walk away. You can also use it to start the engine, but only when your iPhone is inside the car. The iPhone's sensors give it a spatial awareness that allows it to detect whether it's inside or outside the car. So you can only start the engine from inside, and you can't lock the iPhone inside the car by accident.

Take a pass

In addition, Wallet now allows you to download multiple passes at once and there's a new archive section where expired boarding passes and event tickets are automatically filed.

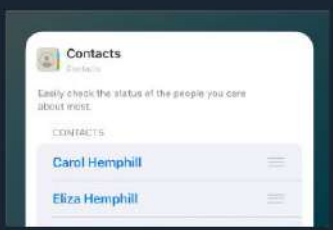
CarPlay now has the ability to announce Messages you receive. There are new dictionaries for India and Hong Kong, and a new thesaurus and idiom dictionary for mainland China. There's improved support for 5G on the iPhone 12 and later, including the prioritising of 5G over Wi-Fi when you are connected to captive or insecure networks or when a network is slow.

Shortcuts get support for syncing with the new Shortcuts app in macOS Monterey and they have been made easier to share.

HOW TO Use the new Contacts Widget ›

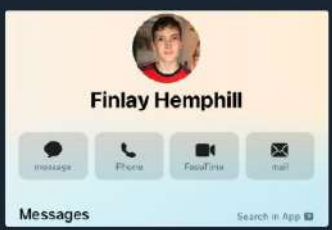
1 Add to Home Screen

Tap and hold anywhere on the Home Screen you want to add the Widget to. When the apps shake, tap the '+'. Scroll down to Contacts and tap it. Swipe left until you see the Widget you want to use. Tap Add Widget.



2 Choose the Contacts

By default, the Widget adds your Favourites. If there's space, it will add other contacts, too. Tap and hold on the Widget and choose Edit Widget. Tap the Contact you want to remove, then tap the contact you want to add.

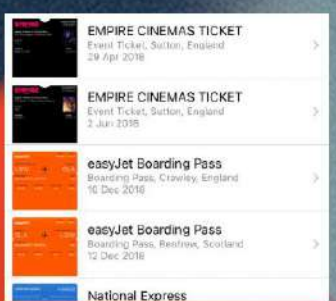


3 Use the Widget

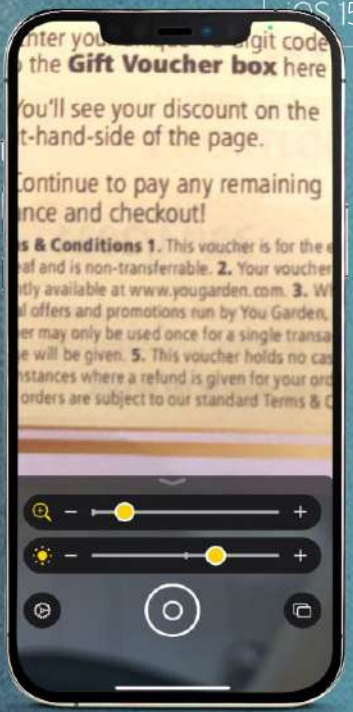
The Widget displays a contact's image and their location, if they are in your Find My app. Tap a contact and you'll see the usual buttons for calling or messaging them. And also interactions you've had and content you've shared.

The new Contacts widget displays a summary of your interactions with that contact.

Home Screen widgets have also been improved. You can now re-order Widgets in Smart Stacks directly from the Home Screen, and iOS will suggest Widgets for your Smart Stack based on apps you use regularly. You can then choose to add the Widget to the stack or not. There are new Widgets for Mail, Find My, Contacts, Sleep, App Store and Game Center. The Contacts Widget is particularly impressive: when you tap a contact with whom you interact a lot, you'll see a summary of those interactions in tiles within the Widget.



Wallet now places expired passes and tickets in an archive folder.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Magnifier is now a default app, allowing you to use your iPhone as a magnifying glass.

In Siri, on iPhones with an A12 Bionic processor or better, audio is now processed on your iPhone. This means that Siri can now process some requests when you're not connected to the internet, including those for timers and alarms, phone, messaging, launching apps, controlling audio playback and settings. Siri can also now share some content including web pages, photos and Maps locations, just by saying 'Send to' and the name of a contact. Siri is also better at understanding conversations in context, so you can follow up a question or instruction with another that's related.

Access all areas

Accessibility has also been improved. New VoiceOver features enable you to mark up documents with VoiceOver notes, and you can explore images in more detail. Magnifier is now a default app that allows you to use your iPhone as a magnifying glass. And a background sounds feature allows you to play white noise-type sounds such as rain or the ocean to mask environmental noise. These sounds automatically dip when there is other audio such as system sounds playing.

What's new in Weather

Apple's acquisition of Dark Sky bears fruit in the new Weather app. When you open the app, the layout is dictated by current and expected weather conditions. For example, if rain or snow is likely, you'll see a precipitation radar image, along with an hourly forecast showing expected precipitation. You can also choose to be notified when rain or snow is due to start or finish. If the weather is dry and settled, the focus is on the 10-day forecast. Whatever the conditions, they are reflected in the animated background which changes according to the current weather. Apple says there are thousands of variations which show sun position, cloud levels and precipitation.

There's a map view that shows temperature in shades of orange, and you can choose to switch it to precipitation or air quality. The main screen also has tiles for UV index, wind speed and direction, humidity, and more.

The new front page on the Weather app is stunning and provides you with all the data you could want.

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The latest news on an Apple VR headset. Plus next-gen AirPods image leak
Mac FORMAT
Apple VR headset - the latest predictions
Rumours of an Apple-branded VR headset have been gaining pace of late. The latest intel suggests that the project could now be looking to combine both AR (a
reality) and VR (virtual reality) te
the same piece of kit.
That said, the expec
headwear to focus m
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Master Apple shortcuts

macOS

- ⌘ is the Command key, which is also labelled *cmd*.
- ⌥ means the Option key, labelled *alt* or *opt*.
- ctrl means the Control key, labelled *ctrl*, and shown as ^ in shortcuts in the menu bar.
- ⇧ is the Shift key.
- ← is the Delete key, which deletes to the left. fn+← deletes to the right.
- ⇥ is the Tab key, which shifts the focus between *some* controls.

iOS

- A *tap* is a brief contact of (usually) one finger on your device's screen.
- To *drag* is to move a finger across the screen to scroll or pan around content.
- *Swipe* means move one or more fingers across an item or the screen, then let go.
- A *flick* is like swiping, but it's quicker, and is often used to scroll content more quickly.
- *Pinch* means move two fingers together or apart, usually to zoom in or out.
- *Touch and hold* means lightly rest your finger on an item and wait for a reaction.

38 GET STARTED WITH MARKUP

WHAT'S INSIDE

38 GET STARTED WITH MARKUP
Add shapes, signatures and more

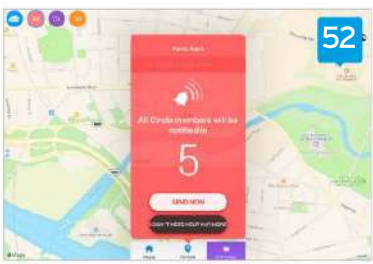
40 CREATE CUSTOM SHORTCUTS
Get instant access with HotKey

42 TAKE A TOUR FROM YOUR MAC
Get where you need to go with Apple Maps

44 MAKE COLOUR ADJUSTMENTS
Adjust hue, saturation and lightness of colours

46 SAVE MONEY ON FOOD
Eat cheaply with Too Good To Go

48 MASTER THE FILES APP
Use Files to sort, scan, share and scribble



50 MAKE NOTES IN YOUR BOOKS
Use Highlighted to save passages from books

52 BRING ORDER TO CHAOS
Organise everything with FamilyWall

54 HOW IT WORKS
Virtual Private Networks vs Private Relay

Get started with Markup

Add shapes, signatures and more with Markup magic

IT WILL TAKE
15 minutes

YOU WILL LEARN
How to edit and annotate with Markup

YOU'LL NEED
Mac OS X 10.10 or later

Genius tip!

If you're using your Mac camera to take a photo of your signature, think big; use a thick pen such as a Sharpie so it's clear.

Don't we mean Markdown?
Nope! Markup has been a part of macOS since Yosemite and it enables you to do things like add annotations to PDFs, draw shapes and speech bubbles on photos and much, much more.

Markup is one of our favourite macOS features: it enables you to perform a variety of tasks on images, PDFs and documents without having to open a dedicated editing app.

You can also use Markup to rotate or crop an image without opening Preview or an image editor. Just tap on the Crop icon and move the corners.

There are several ways to use Markup. You can access it from Finder by holding ctrl and clicking, then selecting Quick Actions > Markup; you can use it inside Quick Look by clicking on the Markup icon; and you can use it in Markup-enabled apps such as Preview, Mail, Notes, TextEdit and Photos. The available tools will differ from app to app so, for example, you get selection tools in Preview that you won't get if you access the same document via Quick Look. And some tools are hardware dependent, so the Draw icon will only appear if you have a Force Touch trackpad that uses pressure sensitivity to draw heavier lines.

Combining your devices

Markup gets even more clever when you use Continuity Markup, which uses your iPhone or iPad screen as a drawing pad for drawing or highlighting files on your Mac. You'll need iOS/iPadOS 13 and macOS 10.15 (Catalina) or later to take advantage of it.

Let's discover how Markup makes editing, annotating and signing files simple.

Carrie Marshall

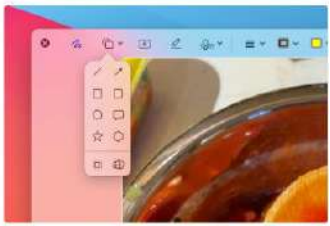
HOW TO Draw and edit with Markup

1 Pick your app

Many of Apple's own apps are Markup-enabled – for example, in Photos if you edit an image you'll see an icon of a circle with three dots in it. Click that and you'll see the icon for Markup, which is a circle with a pencil inside it.

2 Markup quickly

The fastest way to access Markup is from your desktop or inside a folder: select it and tap the Spacebar to bring up the Quick Look window with your file inside it. If it's an image you'll see the picture. Click the Markup icon.



3 Use the tools

The toolbar at the top provides fast access to drawing, shape, text and formatting tools. Here we're going to use the Shape icon to pick a speech bubble. That'll appear in the middle of the window where we can resize and move it.

4 Style your shape

Use the border and fill icons to change the appearance of the selected shape. Here we're going for a vivid yellow. If your Mac has a Touch Bar, you'll see the options replicated there, enabling you to adjust things like brush size.

5 Add some text

You can add text using the text box icon top left, or by clicking inside a shape and typing. Markup remembers previous settings; if last time you used huge fonts, they'll be huge here. Use ⌘+A to select and the text icon to format it.

6 Get magnifying

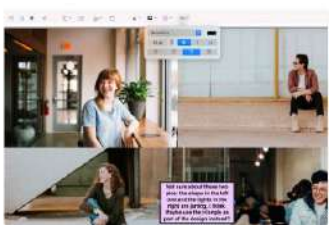
One of our favourite Markup tools is the magnifier, which you'll find at the bottom right of the shapes pop-out. This magnifies the area underneath it. Use the blue control point to resize it and the green one to zoom in or out.

7 Sign your name

We're often asked to sign documents that we want to return digitally, and with Markup you can do that with your Trackpad (if it supports Force Touch), camera or iPhone or iPad. Here we've used our iPad to scribble a big signature.

8 Move your mark

You can move and resize your signature like any other image, and Markup will remember it for later. In this screenshot we've also used the text box icon to add two little blocks of text, so we can add our name and date to the form.



9 Add bits to PDFs

You don't need a dedicated PDF editor to highlight, annotate or scribble on even very big PDF documents: Markup's tools are available for them too. Here we're adding a comment to a PDF that someone else has shared with us.

Create custom shortcuts

Get instant access to important apps and folders with HotKey

IT WILL TAKE
› 10 minutes

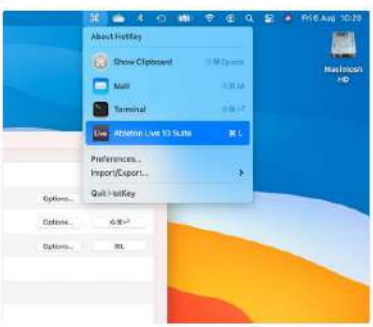
YOU WILL LEARN
› How to create your own keyboard shortcuts

YOU'LL NEED
› HotKey, Mac OS X 10.10 or later

Genius tip!

› Don't forget about Apple's own shortcuts, which run through macOS like the words in a stick of rock: bit.ly/mac370kbshortcuts

One of our favourite kinds of app is the one that's clearly a labour of love, and it often comes into being when a developer spots a feature Apple hasn't provided and steps up to offer it. HotKey is a brilliant example of that. Peter Vorwieger has created a simple, free and really useful utility for macOS that enables you to quickly and easily create all kinds of keyboard shortcuts – not just for apps but for folders and the clipboard too. So if there's a particular folder you're always opening or an app you often need to call up, you can create a keyboard combination for it and access it instantly.



HotKey's menu bar component acts as a handy launchpad for your favourite apps and folders.

Ready to launch

In addition to your shortcuts, you can get HotKey to display an icon in the menu bar. This enables you to see all your shortcuts, which is handy if you've forgotten one of them, and it also enables you to see the contents of the clipboard in full screen. It's a good place to park your most-used apps.

The most obvious use for HotKey is for apps: being able to call up, say, Logic Pro by pressing ⌘+L makes us smile every time. But you can also use it to open folders, and that's by far our favourite thing about it. We have several folders that we're accessing constantly, and before HotKey we put aliases to them all on our Mac desktop. Now we can get instant access to all of them while our desktop remains clear and clutter-free.

Carrie Marshall

HOW TO Save time with HotKey ›

1 Install the app

Install HotKey from the Mac App Store and click Open when it's installed. You should now see this screen, which is the HotKey preferences window. There are already three predefined hotkeys for Mail, Terminal and the Clipboard.

2 Create a shortcut

Click on the '+' icon to create a new shortcut. HotKey will now ask you to choose the app you want to create a shortcut for, and it'll open the Applications folder. We're going to create a shortcut for our first app, Ableton.

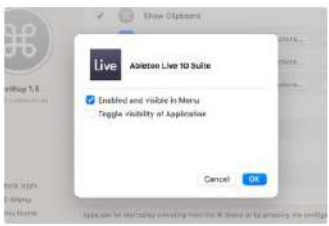
3 Pick your keys

The next step is to decide on the shortcut you want to use for this app. You do that by simply pressing the keys you want to use, such as ⌘+⇧ and a letter. Let's see what happens if we pick ⌘+A as our shortcut for Ableton.

The entered shortcut ⌘A is used by other Applications for "Select All" Function.
Do you want to save it anyway?
Cancel
Save anyway

4 Don't duplicate

Oops! ⌘+A is, of course, the system-wide shortcut for Select All. HotKey will do this any time you try to use a keyboard combination that already exists. You can still use it if you like, but we wouldn't recommend that.

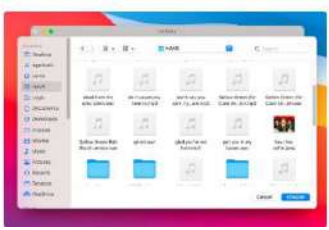


5 Explore the options

Each app gets an Options button. This enables you to include or exclude this shortcut from the HotKey menu bar icon. If Toggle Visibility is enabled, using the shortcut will switch focus to or from the app if it's already open.

6 Change the settings

You can remove shortcuts by selecting them and then clicking the '–' icon, and you can also decide whether HotKey should appear in the Dock and whether its menu bar drop-down should use big or small icons.



7 Add a folder

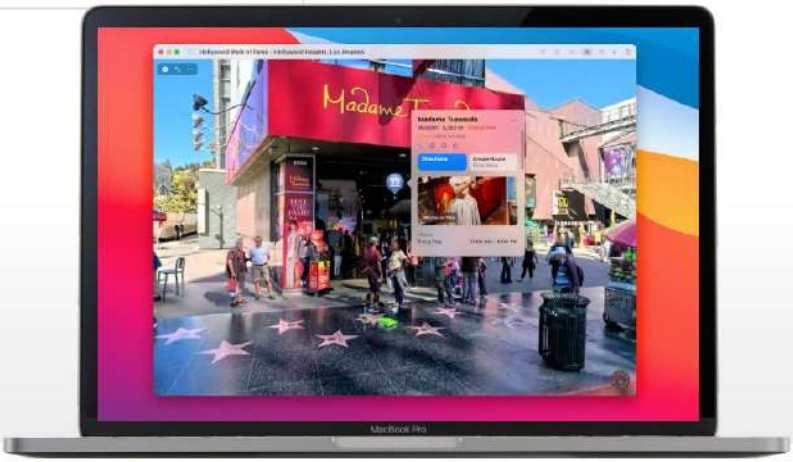
Let's create a folder shortcut. Creating shortcuts for folders is just like creating shortcuts for apps. Browse to the folder you want to create a shortcut for and then click on the Choose button to add it to your HotKey collection.

8 Select your shortcut

As with apps, you'll now need to create the key combination you want to use in future. We've gone for ⌘+⇧+H. Pressing that shortcut when the folder is open but behind something else will bring it to the front.

9 Use the menu

HotKey's menu bar icon provides instant access to all your shortcuts (unless you've deliberately excluded any) for fast access to your favourite apps and folders. You'll wonder how you ever managed without it.



Take a tour from your Mac

Get where you need to go with these top Apple Maps tips

IT WILL TAKE
› 15 minutes

YOU WILL LEARN
› How to use Apple Maps' extra features to get more out of the app

YOU'LL NEED
› Apple Maps, macOS 11 or later

Every year, Apple makes Maps more and more capable. While it can get you from point A to point B, there is much more under the hood when it comes to navigational goodies.

For instance, Maps has its own Street View rival, named Look Around, that lets you take a stroll around the neighbourhood, while Flyover gives you a bird's-eye view of a huge number of cities and locations, highlighting their prominent attractions in three dimensions. And you no longer need to feel a stranger in a new place – just use one of Maps' built-in guides to quickly learn all the must-see attractions wherever you want to go.

If your Mac and other Apple devices are all on the same Apple ID, you can send directions back and forth with ease. That's ideal if you want to plan a route on your Mac, then send the directions to your iPhone for easy navigation on the go.

We'll take you through those key features, helping you find your way around these nifty navigation tools. **Alex Blake**

HOW TO Use Look Around ›

1 Picture-in-Picture

Zoom in until the binoculars icon in the top bar goes solid (not greyed out), then click it. This will open a Picture-in-Picture (PiP) Look Around window. Click anywhere on the map to move this street-level view.

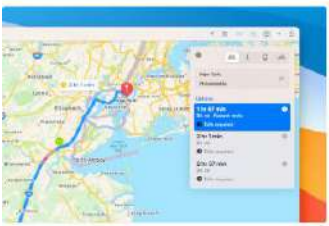
2 Get a closer look

Click the expanding arrows button in the PiP box to make Look Around full screen. Click and drag the window to change the viewing angle, or click somewhere to move to it. Click a business to see a pop-up with more info.

3 Close full screen

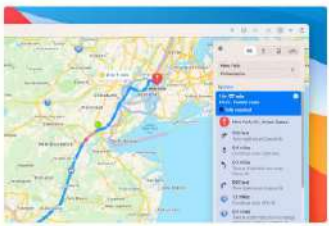
If you want to go back to the Picture-in-Picture mode, click the arrow icon in the top-left corner. To close Look Around entirely, click the 'X' or the binoculars icon. Click '...' then Share to send the Look Around view to someone.

HOW TO Create and share a route



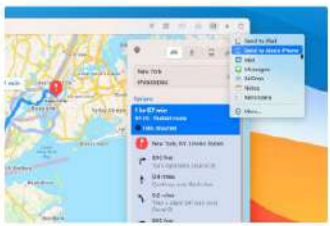
1 From here to there

Search for a location to use as your first port of call, then in the info window that appears, click Create Route. This will add your location as the starting point. Underneath it, in the To box, enter your destination.



2 Pick a route

Now choose which route to take from the different options. Click '›' to see directions if you want more detail. You can also select a mode of transport at the top of the directions window, or reverse the order of stops.



3 Send to your devices

Once you are happy with your chosen route, click the Share button in the top-right, or click File › Share. Choose a method (such as AirDrop or Mail) and follow the on-screen prompts, or click 'Send to [device name]'.

HOW TO Use and create Guides

1 Find a guide

Search for a location and click Guides under its result, or choose a guide from the location's info box. Click a guide to see it on the map. Click the Save button under the guide's name to add it to your favourites.

2 Make your own

To add your own guide, click '+' under My Guides in the sidebar, then give it a name. Search for a location or click somewhere on the map, click '…', then click 'Save to Guide' and choose your new guide from the list.

3 Edit your guide

Hold ctrl and click your guide in the left-hand sidebar, then click Edit Guide. Here you can change its name, add a new key photo, or delete it. To remove a location, ctrl-click it in your guide, then click 'Remove from Guide'.

Get a bird's-eye view

Flyover gives you a new perspective

Flyover puts you on an aerial tour of a city in Maps. First, check which cities work with Flyover on Apple's website: bit.ly/MFflyover (this link is case sensitive). Search for a location that is compatible with Flyover, then click it in the sidebar. Its information card will appear. On the card, click Flyover Tour. The Flyover tour will now begin. This converts the map to a satellite view (if it wasn't already) and cycles through major attractions from a drone's perspective. Details of each location are at the bottom of the window.

Make colour adjustments

How to adjust the hue, saturation and lightness of specific colours

IT WILL TAKE
15 minutes

YOU WILL LEARN
How to use the Selective Color and Color Balance panels, and Desaturate brush

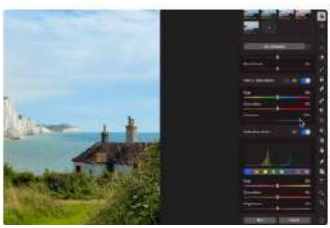
YOU'LL NEED
Pixelmator Pro 2.1.2, macOS 10.14 or later

By default, your iPhone's Camera app can capture true colours in a range of different lighting conditions such as direct sunlight or under artificial tungsten lights. However, there are times when you might want to adjust a particular colour's hue, saturation, brightness and balance to produce more creative looks. By selectively darkening the brightness of a sky you can make it look more dramatic and cause clouds to stand out in contrast for example. Or by reducing the saturation of a range of colours you can draw the eye to a fully saturated subject, such as a red bus against a black-and-white background. This is known as the spot colour effect. You can even fast-forward the seasons and turn summer into autumn by tweaking the hue of a tree's yellows and greens.

Pixelmator Pro has a handy Selective Color panel that enables you to adjust the hue, saturation and brightness value of specific colours to produce all these creative effects.

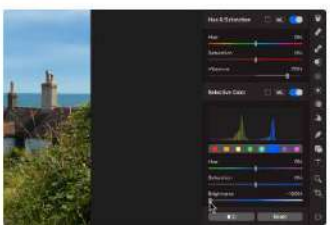
George Cairns

HOW TO Adjust a sky's hue and lightness



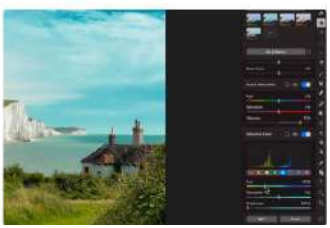
1 Boost colours

Press A to go to Pixelmator Pro's Color Adjustments workspace. Drag Vibrance right. This selectively boosts the saturation of common landscape colours such as green fields and blue skies (without over-saturating skin tones).



2 Darken blues

Scroll down to the Selective Color panel. Click the light blue swatch. Drag the Brightness slider left to -100%. To darken all shades of blue click the darker blue swatch and reduce its brightness to -100%.



3 Cyan sky

For a more creative look click both of the blue swatches and set their Hue slider to -10%. This adds a wash of cyan to the sky that evokes the colours in a retro seaside postcard. Cyan skies often turn up in movies too.

HOW TO Create a spot colour effect

1 Spot colour

To create a classic 'spot colour effect', we need to create a black-and-white shot that only features one coloured object. Fortunately Pixelmator Pro's slider and brush-based tools can target colours with precision.

2 Reduce saturation

Open an image that features a strongly coloured subject such as our iconic London bus. In the Selective Color panel click all the swatches apart from the red and orange ones and reduce their Saturation to -100%.

3 Selective removal

We now have a monochrome shot with only red colours remaining. To selectively remove remaining reds from other objects click on the Desaturate tool. Tick All. Set Strength to 100%. Spray over unwanted areas of red.

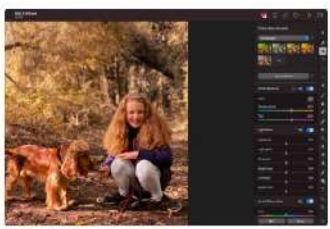
HOW TO Adjust hue to alter the seasons

1 Summer to autumn

Different seasons evoke different moods. We can change summer to autumn by targeting and tweaking the hue of a photo's green leaves to give them the brown-orange complexion caused by a seasonal lack of chlorophyll.

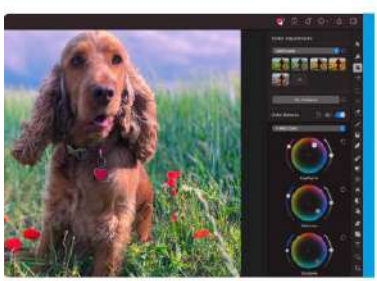
2 Adjust hue

In the Selective Colour panel click the green swatch. Drag the Hue slider left to -60%. Leaves also contain yellow, so click the yellow swatch and drag Hue to -40% to add orange to the leaves.



3 Change temperature

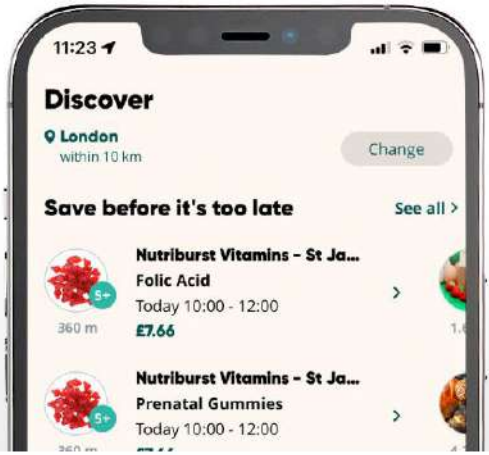
Go to the White balance panel and drag the Temperature slider right to 20%. This adds a warmer autumnal wash to all the colours. Reduce remaining hints of summer green by dragging the Tint slider towards magenta.



Creative grading

Make selective adjustments to colour balance

Another way to target and tweak specific colours is to go to the Color Balance panel and select the '3-Way color' option from the drop-down menu. This gives you access to three colour wheels that enable you to independently change the colour balance of a shot's shadows, midtones and highlights. Drag on a control point to shift the colour balance of a particular tonal range. Here we've added a warm magenta hue to the highlights while adding a cooler cyan to the midtones and shadows. This produces a creatively graded version of our photo.



Save money on food

Eat cheaply with Too Good To Go and help prevent food waste

IT WILL TAKE
5 minutes

YOU WILL LEARN
How to get discounted food and help fight food waste

YOU'LL NEED
Too Good To Go, iOS 10.3 or later

Food waste is a big problem. Not only do huge amounts of food go uneaten every day, but all the energy expended in creating it goes to waste too.

One of the main areas this happens is not at home but in restaurants and shops. At the end of the work day, heaps of food that could not be sold must be disposed of – a process that repeats every day in every city and town.

Fortunately, there is a way to help. The free Too Good To Go app connects you to local shops that want to avoid squandering food they can't sell by the day's end. Everything sold on the app is discounted, often heavily so, and comes in 'magic bags' containing a mystery selection of tasty food. That allows you to grab a great bargain while diverting food from the rubbish heap and making the shops some extra cash to boot.

Here, we will take you through using Too Good To Go, from finding your new favourite shop to making your first purchase.

Alex Blake

Genius tip!

On a shop's page, tap its address to see its location on a map. Tap the map to plot directions in your favourite mapping app.

HOW TO Use Too Good To Go

1 Discover a bargain

The app's Discover tab has various sections where you can find discounted food bundles. These 'magic bags' are on sale for a few hours and contain various products that the store is selling at a reduced price.

2 Get more details

As you browse offers, tap a shop to get more information. You'll see the magic bags it offers and their prices, the store's address, what could come in your magic bag, relevant allergy information, and other details.

CONTINUED... Use Too Good To Go >

3 Find similar shops

Under the 'What you could get' section of a store's information page, tap a tag (such as 'vegetarian' or 'baked goods' to find other shops offering food matching these filters. Or use the Browse tab (see next step).

4 Search for more

The Browse tab lets you look for food in more detail. Here you can scroll through a list of stores and their offers. Tap the magnifying glass to enter a search term, or tap the suggested filters to refine the results.

Hide sold-out stores
Most stores only have a few Magic Bags every day. By activating this filter, we'll only show you stores with food left to save.
Category
Show all
Meals

5 Use filters

Tap the Filter button to the left of the magnifying glass. Here, you can choose to only show results based on your specified food categories and dietary preferences, search by collection time, and hide sold-out stores.

6 Mapping it out

By default, results are shown in a list. Tap Map to change the view. Grey dots on the map are sold-out stores, yellow dots have fewer than five products, and green dots have five or more products. Tap a dot for more info.

7 Add to favourites

From the search results on the Browse tab, tap the heart next to a shop to add it to your favourites, then tap the Favourites button to view your saved stores. This is a quick way to revisit your preferred shops.

40 Strutton Ground, Westminster, London SW1P 2HR, UK
ECCo Pizza - Westminster - London (ECCo Pizza - Westminster - London)
Today 18:30 - 19:00
Select quantity
1

8 Pay and pick up

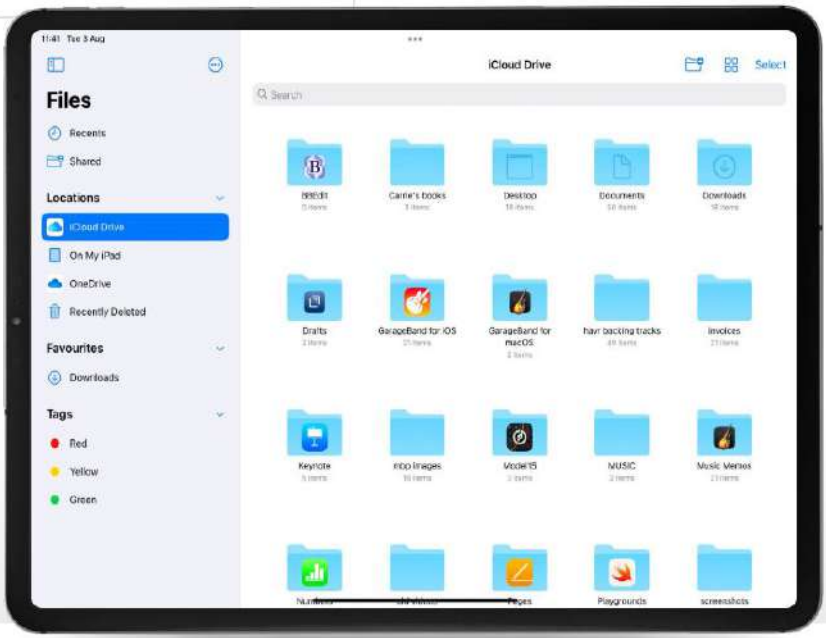
When you have found something you want, tap Reserve to put your name down for a magic bag. Enter your payment details and pay in advance. You'll then receive a time window to arrive and pick up your food.

Jargon buster

> In Too Good To Go, shops serve **magic bags**. All bags contain surplus and unsold food, meaning each one is different and surprising.

Genius tip!

> You can change your location at the top of the Browse tab. This is useful if you are travelling and want to pick up food when you arrive.



Master the Files app

Use Files to sort, scan, share and scribble on your stuff

IT WILL TAKE
15 minutes

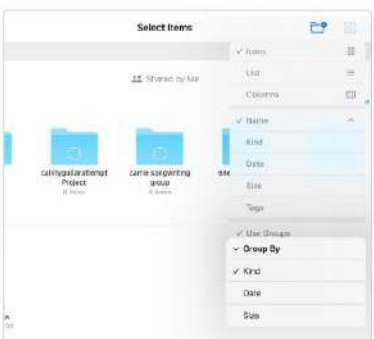
YOU WILL LEARN
Everything you need to know about Files

YOU'LL NEED
iOS 11 or later, or iPadOS 13 or later

Genius tip!

When you share from Files it uses the system-wide share sheet, which you can edit by tapping Share and scrolling to Edit Actions.

Before iOS 11 came along, file management on the iPhone, iPad and iPod touch was a real pain – and something that meant spending far too much time swearing at iTunes. And then Apple released Files, which made it easy not just to access the files on your device, but to access cloud services and iCloud Drive too.



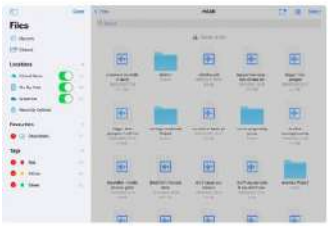
Just like with Finder on your Mac, you can also group your icons into categories, by date or by size.

In its current incarnation Files is very like Finder, and it has extra powers beyond just organising and displaying files. You can use it to scan documents with your iPad's camera, to annotate PDF files with Markup (see p38), to play music files including high quality FLAC files and even to make basic edits to video clips. We think it's particularly good when you also store your Mac desktop and documents in iCloud Drive, because you can then access those files and folders from your device.

Cloud control

In this tutorial, we'll look at the features that Files offers to make every day a little bit easier, focusing on cloud services and the files on your iPad. But Files can work with other devices too: with the appropriate adaptor it can read SD cards or external USB drives, and you can connect to a network server via SMB, which is widely supported. And you can also expand its powers by sending content from Files to other apps or by customising the iOS share sheet, which you can edit and add new features to via the Shortcuts app. **Carrie Marshall**

HOW TO Use Files on iPad

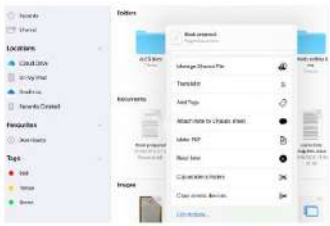


1 Connect the cloud

The first time you use Files, it'll ask you which cloud services to connect to; not just iCloud, but third-party services such as Dropbox too. You can show or hide these in Files' sidebar by tapping the '...' icon and then Edit Sidebar.

2 Change the view

Use the icon at the top right of the Files window to switch between different views. Just like Finder you can have a list view, an icon view or a column view, and you can sort the current folder by name, kind, date, size or tags.



3 Share a file

If you long-press on a file or folder you'll see a pop-up menu. The available options will depend on what apps you have installed, but they'll include one to share a file (or if it's already shared, to manage the shared file).

4 Add iCloud people

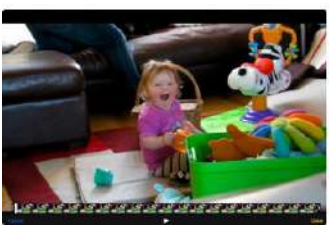
If you choose to share via iCloud you can now decide how you want to send your sharing invitation and whether your recipient(s) should be allowed to edit your file or just view it. Here we've enabled editing for our shared file.

5 Scan and scribble

Files can scan documents using your iPad camera. To do it, tap on the three-dot icon at the top of the sidebar, choose the scan option and snap your page(s). You can then use Markup to highlight or annotate the resulting file.

6 Play your media

With certain types of files such as audio and video, Files enables you to play the media without opening a dedicated app. It's very like Quick Look on the Mac. This is a video clip. Look at the icons at the top right.



7 Edit a video

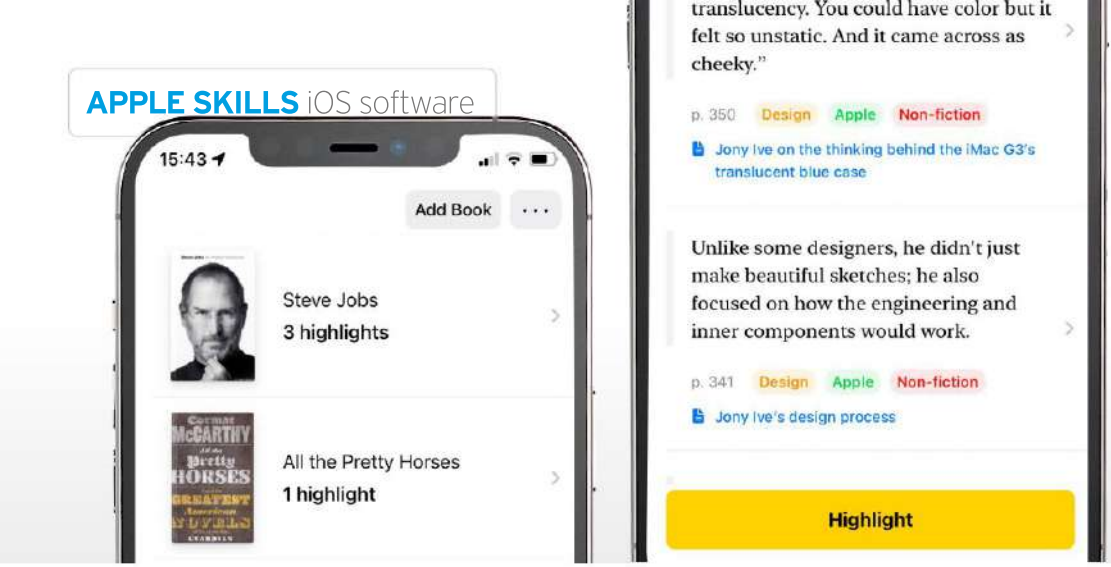
The second rightmost icon on a video preview enables you to trim a clip by cutting out a section from the beginning, end or beginning and end of a clip. All you need to do is grab the slider and tap Done when you're happy.

8 Zip it up

To send folders or multiple files, it's a good idea to compress them into a single and hopefully smaller file. Select the item(s), long press and tap Compress. Your compressed file is separate: Files doesn't delete the originals.

9 Add a tag

You can't edit the existing Sidebar tags – they're imported from Finder and have to be renamed on your Mac if you want to change them – but you can create and apply new ones by long-pressing an item and tapping on Tags.


15:43
Add Book
Steve Jobs
3 highlights
All the Pretty Horses
1 highlight
translucency. You could have color but it felt so unstatic. And it came across as cheeky."
p. 350 Design Apple Non-fiction
Jony Ive on the thinking behind the iMac G3's translucent blue case
Unlike some designers, he didn't just make beautiful sketches; he also focused on how the engineering and inner components would work.
p. 341 Design Apple Non-fiction
Jony Ive's design process
Highlight

Make notes in your books

Use the free Highlighted app to save passages in any book you own

IT WILL TAKE
5 minutes

YOU WILL LEARN
How to save and organise phrases in your books using the Highlighted app

YOU'LL NEED
Highlighted (free), iOS 14 or later

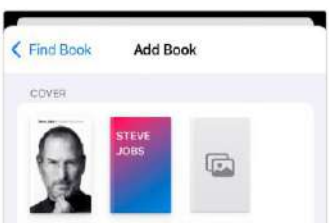
If you enjoy reading, you've probably got shelves of books with folded pages, scribbled notes, and highlighted phrases running through them. It's a good bet that the more of these you have in a book, the more loved it is.

The problem with this is that all this loving defacement can, well, deface your collection. But there's another issue: with notes and highlighted passages in the books themselves, there's no central repository for all the interesting and insightful things you have saved.

But there is if you use an app called Highlighted. Get this on your phone and you can add books to your collection, scan pages, highlight your favourite passages, then sort them with tags and mark them as favourites. Then if you want to revisit any of your saved text, it's all just a few taps away.

Highlighted is free, with no in-app purchases to worry about. Here, we'll show you how to master its features. **Alex Blake**

HOW TO Save text with Highlighted



1 Add your books

Open the app and tap Add Book. Search for the name of the book you are reading (or about to start reading). Tap the name, check the details, then tap Add Book. Do this with any books you want to add highlights to.

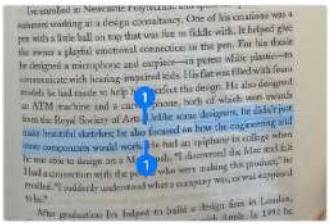
2 Use the camera

Tap one of your books, then tap Highlight and grant access to the camera. The easiest way to add a highlight is to tap the camera icon in the top-left and take a photo of a book page (keep it as flat as possible).

3 Snap a photo

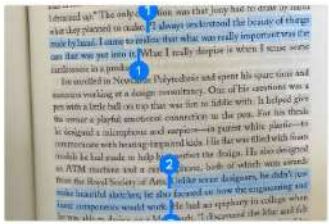
Line the page up on the screen, then tap anywhere to take a picture of it. You can add another page by tapping the '+' in the top-left, tap the lightning button to add a flash, or use a photo from your device's library.

CONTINUED... Save text with Highlighted >



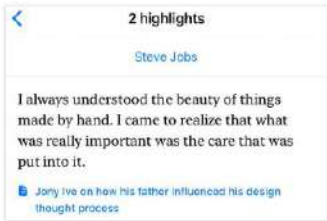
4 Start highlighting

Once you have captured an image, tap any word on the page and the complete sentence will be highlighted. Tap it again to remove the highlight. Or tap and drag the start or end buttons (marked '1') to add or remove text.



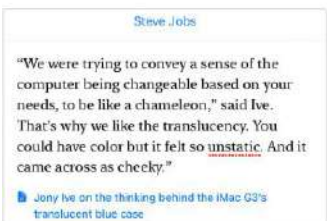
5 Save more phrases

You can highlight another passage on the same page by tapping another word. When you are done, tap 'Confirm all' to save the results (as separate or merged quotes), or tap 'Start over' to delete the page and begin again.


2 highlights
Steve Jobs
I always understood the beauty of things made by hand. I came to realize that what was really important was the care that was put into it.
Jony Ive on how his father influenced his design thought process

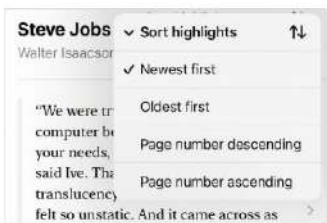
6 Favourites and tags

After saving a passage, you can add it to your favourites, give it a page number, and add tags for easier sorting. Tags can be given colours to help differentiate them. Swipe left or right to move between highlights.


Steve Jobs
"We were trying to convey a sense of the computer being changeable based on your needs, to be like a chameleon," said Ive. That's why we like the translucency. You could have color but it felt so unstatic. And it came across as cheeky."
Jony Ive on the thinking behind the iMac G3's translucent blue case

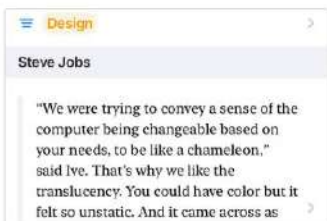
7 Manual highlighting

You can also add text manually. Tap Highlight, then tap the keyboard icon and start typing. Notes can be added under each highlighted passage. Tap the book name to add a highlight from another book you have added.



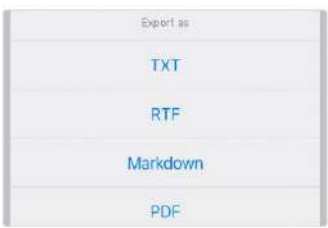
8 Browse highlights

Now that you have added some highlights, return to the app home page where your books are listed. Tap the name of the book to browse its highlights. Tap '...' to sort your highlights by date added or page number.


Design
Steve Jobs
"We were trying to convey a sense of the computer being changeable based on your needs, to be like a chameleon," said Ive. That's why we like the translucency. You could have color but it felt so unstatic. And it came across as

9 Search for results

On the app home page, tap the 'Search highlights' button. You can look for specific text and filter the results by tags to narrow down your search. Tap Export to directly export quoted passages from the search results page.

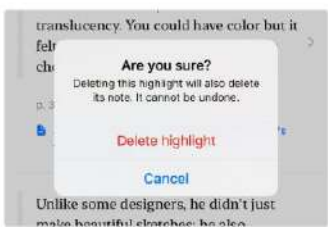


10 Export saved text

Tap '...' again, then tap 'Export highlights' to export all highlights at once. Choose how to sort them and whether notes, page numbers, and tags are included, then tap Export. Now select the file type and destination.

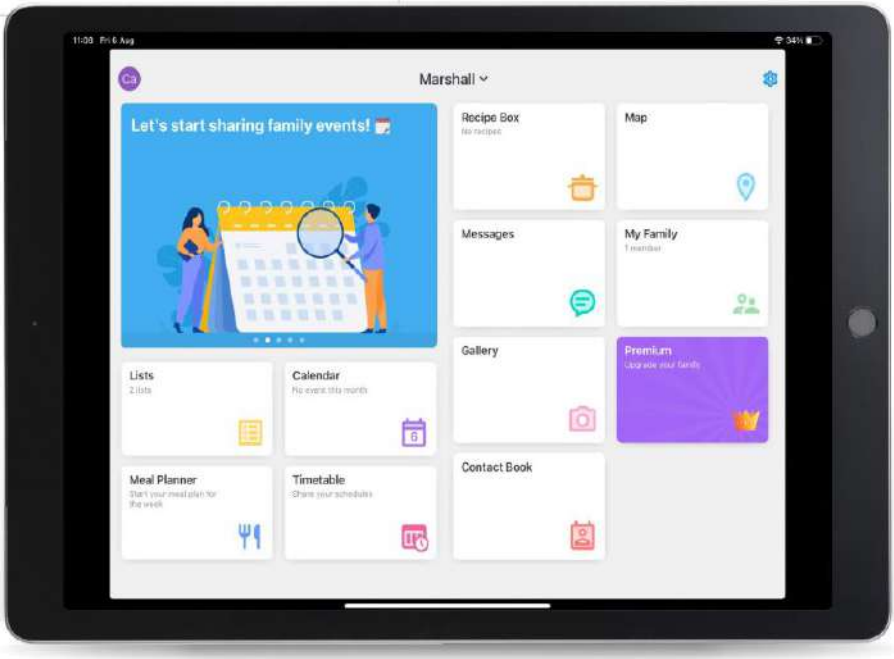
11 Share as an image

Individual highlights can be exported by tapping one and selecting Share. This lets you save it as an image or raw text. If you choose the former, you can save it in light or dark mode. Tap Share when you're done.


Are you sure?
Deleting this highlight will also delete its note. It cannot be undone.
Delete highlight
Cancel
Unlike some designers, he didn't just

12 Delete highlights

To remove a highlight you have saved, find it in your list of highlights, then tap Delete in the top-right corner. This will ask you if you are sure; tap 'Delete highlight' if you are, or tap Cancel to keep it.



Bring order to chaos

Organise everything from dinners to playdates with FamilyWall

IT WILL TAKE
20 minutes

YOU WILL LEARN
How to use FamilyWall as an organiser

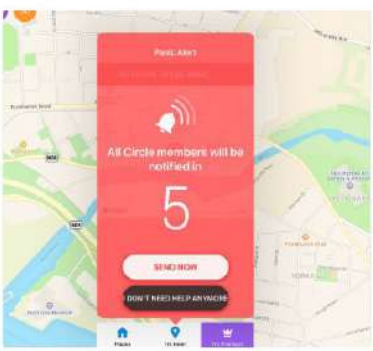
YOU'LL NEED
FamilyWall (free, IAPs), more than one iOS/iPadOS device

Genius tip!

If you're a paid subscriber, you'll get 25GB of cloud storage that you can use instead of iCloud to store and share family photos.

Organising children is like herding cats, only harder. There are meals to plan, lunches to buy, playdates to attend, kit to wash… the list seems never-ending. Thankfully apps such as FamilyWall can help even the most harassed parent organise everything.

At its heart FamilyWall is a shared calendar system that works across everybody's iPhones, iPads and iPod touches. You can quickly create events that include some or all of your family and their circle of friends, set reminders and add notes, and if you've enabled location services you can also use the app to see the location of your family circle members.



Any family member can send a panic alert from the map screen, which will email all members of the family circle.

The app also includes built-in Messages-style chat, photo and video sharing and even the ability to store recipes, plan meals for the whole week and create shopping lists for ingredients as well as for other essentials such as school clothes. As you'll discover in this tutorial it's also very easy to use, and more importantly it's really fast – because if there's one thing parents and guardians don't have, it's a lot of spare time.

Pay to play

Although the core FamilyWall app is free, many of its features – Google and Outlook calendar sync, location services, audio and video messaging and meal planning – require a subscription. That's currently £35.99 per year and there's a free 30-day trial of everything. **Carrie Marshall**

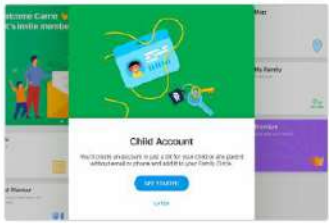
HOW TO Use FamilyWall to get organised >

1 Start your circle

FamilyWall uses 'circles' to organise people into groups, and you can have more than one circle in the same app. We'll stick to a single circle for now. Give your circle a name and add a cover photo if you wish.

2 Invite everyone

Now you need to invite your family members. You can do that by inviting an existing contact, by emailing or texting another child's parent or guardian, or by creating a child account for a family member or friend.



3 Create an account

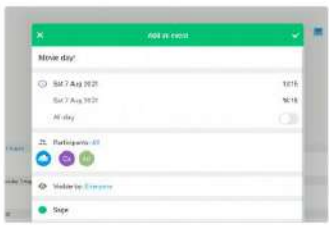
We like the way FamilyWall approaches child accounts; instead of requiring an email address, it enables you to create a username and password combination. It'll email those details to you for future reference.

4 Pick a username

Usernames need to be at least five characters, and you'll find that common first names and nicknames are already taken. We found that names or nicknames with a couple of numbers on the end were the best option.

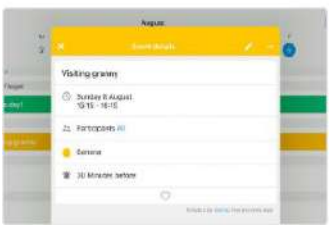
5 Connect your calendar

The Calendar section can work on its own, but it's even better when you connect it to your iOS calendar so it can add new events to that. If you're a paying subscriber, you can also add calendars from Google and other services.



6 Create an event

Events work as they do in any other app, although by default they'll include everybody from your circle; you can change that by clicking on Participants: All and changing the list. You can colour code the event and set reminders.



7 Add another

This time we'll use a different colour and take advantage of the notes section at the bottom: we're going to remind ourselves to take some bits and bobs when we go to visit granny. You can also include GIFs to amuse the family.

8 Plan your meals

FamilyWall doesn't just plan events. You can use it as a recipe book and meal planner, entering recipes manually or just giving the app the appropriate web address for the recipe. You can then create meal plans and shopping lists.

9 Chat with your circle

The built-in chat system works very much like Apple's own Messages, enabling you to share text, photos, GIFs, audio and even video. Just remember to enable notifications so that you'll be alerted to new messages or replies.

HOW IT WORKS

Virtual Private Networks (VPNs)

Discover how VPNs and Private Relay help make your connection secure

YOU WILL LEARN

- The difference between a VPN and Apple's Private Relay

To prevent your ISP being able to see what you're doing, VPNs provide you with internet access through their own servers

Key fact

Another benefit of VPNs is that they allow you to connect to the net through a wide range of servers based in different territories. If you choose to connect through a server in a different country, you appear to be resident there, which can unlock geo-restricted features. You could watch UK catch-up TV while holidaying abroad, for example.

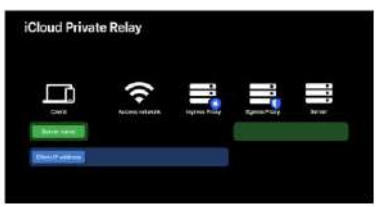
How private is your internet connection? The simple answer is not very: data is sent and received over the internet in so-called 'packets'. First, those packets can be linked to your computer, because they're tagged with the public IP address allocated to your modem router by your internet provider. This enables data to transmit between servers without getting lost, but obviously means your internet activity can be traced back to your door.

Second, unless the data contained within those packets has been encrypted by whatever service you're using – your online banking app, for example, or a secure (https) website – then its contents can be clearly read by your internet provider or a hacker to reveal not only what you're doing, but also expose potentially sensitive information such as passwords or credit card numbers.

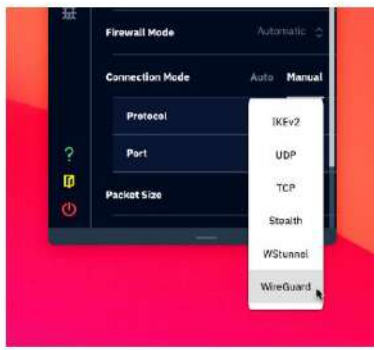
How a VPN works

Virtual Private Networks (VPNs) scramble the data you send to and from the internet to plug some of these security holes. They serve three specific functions: one, to encrypt data transmitted over Wi-Fi networks; two, to prevent your internet provider from seeing what you're doing online; and three, to mask your precise location from any internet services you're using.

First, data passed through Wi-Fi networks is particularly vulnerable. Any hacker connected to that network – even if it's encrypted – can intercept your data with the right tools, which is why when you're out and about a VPN should be considered essential before connecting to any public Wi-Fi network, encrypted or not.



Apple's upcoming Private Relay bears superficial resemblance to a VPN, but only masks Safari web traffic.



VPNs use several different encryption protocols: OpenVPN, WireGuard and IKEv2 are among the best available.

To combat this, VPNs create what's known as a 'secure tunnel' to hide your data from hackers. This is done by encapsulating every single packet of data within an outer layer that's encrypted using one of several different protocols (see the Key Fact opposite). This also masks your internet activity from your ISP – it can see you're transmitting data, but it can't tell what sort of data it is.

As things stand, however, your ISP could work out the nature of your internet usage by seeing what services you're connecting to. To prevent it from being able to see what you're doing, VPNs provide you with access to the internet through their own servers. The secure tunnel transmits your encapsulated data to the VPN's server – which is the only part of its journey your ISP can track. Here, the outer packet is decrypted, and the original data is then sent on its way to its destination. Any data sent back goes through the VPN server, where it's encapsulated again prior to being sent back to you.

The encryption-decryption process requires both client and server to possess the correct keys for encrypting and decrypting the data packets, which is why no one else can see

VPN providers offer dozens of servers across multiple countries – choose one for speed, location or services.

the data inside. It's an intensive process that can result in a slower internet connection when a VPN is being used.

The re-routing of data via the VPN's server also hides your true location from the service you're connected to, because the VPN server is identified as the originator of the data rather than your own public IP address. It can also mask your location from other trackers, such as browser cookies.

Apple Private Relay

At first glance, you might think that Apple's Private Relay technology, due to be rolled out with macOS Monterey and iOS 15 as part of the new iCloud+ service, is taking direct aim at VPNs, but don't rush to cancel your VPN subscription just yet. In fact, Private Relay is specifically limited to hiding your activities in Safari, so will make no effort to obfuscate any other internet-based communication to or from your mobile or Mac.

On a superficial level, Private Relay works in a similar way to a VPN, but rather than scramble your data through a single server, it actually goes through two randomly selected servers. Your data is encrypted, then transferred to an Ingress Proxy, which is run by Apple. The proxy knows your location, but not the website you're visiting (because it's been encrypted) – its job is to replace your uniquely identifiable IP address with an approximate location. This can be either a regional area or simply your country and time zone, depending on how anonymous you want to be.

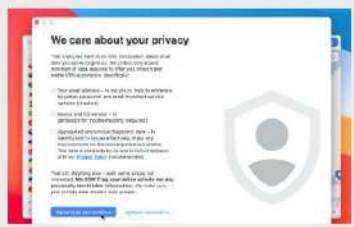
Next, the Ingress Proxy passes on your data through another encrypted location to an Egress Proxy, which is run by a content provider. This decrypts your data so it knows where to forward it on to, and – based on the geographical information given to it by the Ingress Proxy – allocates it a random IP address from that area or country. The data is then encrypted again and sent on to the website, which can identify that you're from a specific region or country but can't pinpoint your exact location. Any data sent back is encrypted, then passes through the Egress Proxy and Ingress Proxy before arriving on your device.

The key difference between a VPN and Private Relay is that a VPN scrambles all your web traffic, while Private Relay will only scramble traffic sent through Safari. **Nick Peers**

A matter of trust

Both VPNs and Private Relay require you to transfer trust from your ISP to the service in question. When you log into your VPN account, the provider gets your details and can see everything you're doing online, making it theoretically easy to log all your activities. Mindful of this, VPNs have always played up their privacy, with no-logging policies. Major providers have signed up to the VPN Trust Initiative (vpntrust.net) to establish baseline practices for security, so make sure your provider is one of them.

Private Relay attempts to get around this major issue of trust by forwarding your encrypted data through two servers from different providers. This separation of knowledge is designed specifically to protect you: the Ingress Proxy knows who you are, but not what content you're forwarding, while the Egress Proxy knows what you're doing, but not who (or where) you are.



VPN providers go to great lengths to assure you that – despite being able to – they don't monitor you online.

Key fact

VPNs offer several forms of encryption protocols to scramble your data. Older standards like PPTP and L2TP/IPSec have been superseded by newer standards such as OpenVPN and WireGuard. Another standard – IKEv2/IPSec – is popular with mobile devices because it's good at re-establishing connections that are lost or disconnected.

GENIUS TIPS

EDITED BY **HOWARD OAKLEY**

EXPERT ADVICE

Our resident genius solves your Mac and iOS problems

Contact us

Email your queries and your questions to **genius@macformat.com**

Don't forget those backups

We often like to set and forget routine tasks, such as backing up with Time Machine. But if you decide to start intensive housekeeping – on a large Photos library, for instance – after a while, free space on your backup storage will decline sharply, as every change you've made is written out each hour.

Before Big Sur, that wasn't a problem, as you could delete intermediate files from your backup to recover the space. But now, backing up to APFS, you can't do that, as deleting whole backups would trash photos of the baby along with clips of the bathwater...

Excluding folders from your backups is adaptive, depending on what you're doing. It may be better to move projects to a working volume, whose backups can be removed entirely when you're done. Like your work, your backups need to be dynamic.

Warnings of leaked passwords

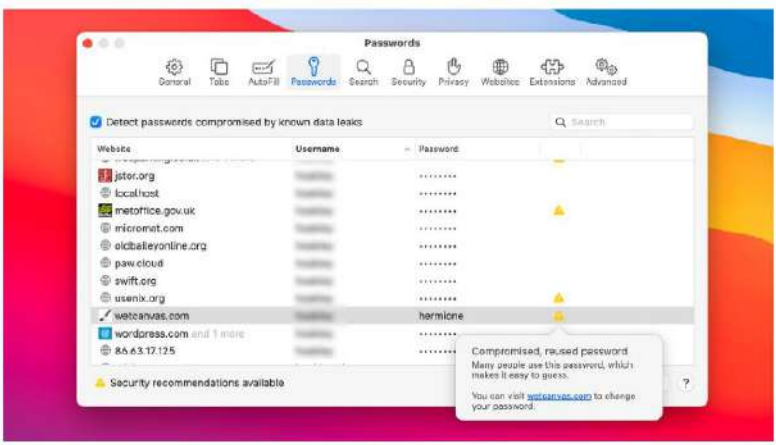
Q Safari's start page warns us that passwords for online banking services have appeared in a data leak. What should we do?

by DAVID HIGNETT

A Recent versions of Safari tap into lists of compromised passwords, which Apple maintains. When it finds a stored password that matches those known to have been compromised, it warns you and helps you change it to something more secure. This doesn't necessarily mean your password or account have been compromised, though.

If a password protects any site or service involving money or sensitive personal information, you should follow Safari's advice and change that to a strong password as soon as you can. However, the passwords list may also include many old sites and passwords that have long expired, or never gave access to anything of importance.

When you change passwords, ensure you replace old with fully robust new ones, which comply with the different requirements for each service. If you haven't already done so, ensure that two-factor authentication is also activated where it's available. Although this can be a pain, for online banking and similar services it's now essential. Also consider more secure alternatives, such as the service's own secure app.



Safari can now check internet passwords for their robustness, but only you know whether they protect important services.

iOS software

Swipe away your touchscreen troubles and rekindle your love of Apple's mobile devices

Quick-fire questions

How to disable the volume buttons on my iPhone?

If you put your iPhone in any sort of cradle or clamp, for example when using it to fly a drone, its volume buttons may be pressed unintentionally. To fix this, open Settings and tap Sounds & Haptics > Ringer and Alerts. Then disable Change with Buttons, and control the volume there using the slider instead.

Why don't my text messages show on my Mac?

Unlike iMessages, text messages are only received on your iPhone and other devices with mobile phone connections, and don't arrive through iCloud. To see them on other devices, on your iPhone use Settings > Messages > Text Message Forwarding for your Mac and other devices.

Keep iPhones and iPads safe

Q After reading about recent malware affecting iPhones, what should I do to keep my iPhone and iPad safe?

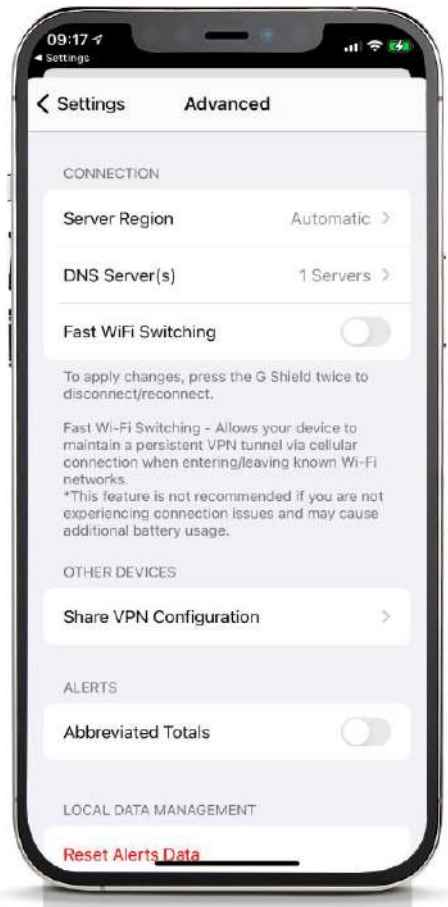
by ROB GILBERT

A Recent reports about Pegasus commercial spyware, produced by the NSO Group, being used for intelligence-gathering by government and law-enforcement agencies are serious, but affect very few users who have been specifically targeted. Far more likely are unwanted and annoying apps known as PUPs, or websites that try to extract personal information. Pegasus can now be detected, but it's complex and requires developer tools and Terminal, as detailed by Amnesty International at bit.ly/mac370mvt.

So long as you never jailbreak your iPhone, which would immediately put it at high risk, you rely on the protection afforded by the App Store and the limits it places on apps. Unfortunately, it's those same limits that prevent effective anti-malware apps.

The biggest risks come not from malicious apps or rare targeted spyware such as Pegasus, but on what you do, the links you follow, websites you visit, and your behaviour. There are tools to help you avoid those dangers, but in the end it's your personal judgement and caution, as no software can make everything safe.

Be vigilant for scams and malicious attachments sent via email, Messages, texts, even in calendar entries. Products like Malwarebytes Mobile Security, a good VPN service when you're using public Wi-Fi, and Guardian Firewall, can all help, but you've still got to accept personal responsibility and not leave security to an app or service. Finally, ensure that your Apple ID password is robust, and that it uses two-factor authentication.


09:17
Settings
Settings
Advanced
CONNECTION
Server Region
Automatic
DNS Server(s)
1 Servers
Fast WiFi Switching
To apply changes, press the G Shield twice to disconnect/reconnect.
Fast Wi-Fi Switching - Allows your device to maintain a persistent VPN tunnel via cellular connection when entering/leaving known Wi-Fi networks.
*This feature is not recommended if you are not experiencing connection issues and may cause additional battery usage.
OTHER DEVICES
Share VPN Configuration
ALERTS
Abbreviated Totals
LOCAL DATA MANAGEMENT
Reset Alerts Data

Guardian is a unique iOS app that combines a software firewall with VPN and sophisticated features to help you keep secure.

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Mac software

Resolving riddles and restrictions with what you want to run on your Mac

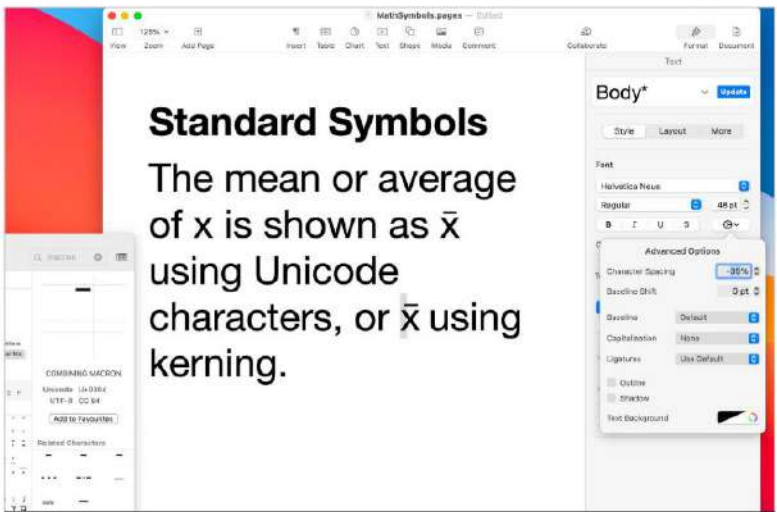
Quick-fire questions

How to forward attachments by default in Outlook?

This default has changed recently in Microsoft Outlook. Open its Preferences, select Composing, and for each account tick 'When replying or forwarding, use the format of the original message'. This also retains the original message format, but the two features aren't controlled separately.

How do I play a movie across several Keynote slides?

Drag a movie file in a supported format to the slide in which you want it to start playing, then repeat with all subsequent slides in sequence. On each, select the movie, click Format, then Movie, and turn on 'Play movie across slides' except on the last slide, where it should be turned off to ensure it stops there.



The upper characters use combining in Unicode, and the lower kerns the overline back on top of the x.

Use complex characters and symbols

Q In Pages documents, how can I use characters not in the Character Viewer, such as the maths symbol for average, which is an x with a bar on top?

by MOIRA LEWIS

A There are two ways to create compound characters, depending on how you deliver them: in text or set in a laid-out format such as a PDF. Unicode, used in all text on Macs and Apple devices, handles these using Combining Diacritic Marks, including accents and scientific symbols, such as the overbar for denoting average. Although hard to add through the keyboard, you can do this using the Character Viewer window from the Keyboard menu bar item.

First type 'x', then open Character Viewer. In the list at the left select Unicode, and scroll the centre list until to select Unicode block 00000300 just below the top, containing Combining Diacritic Marks. Find the COMBINING MACRON or OVERLINE, and double-click to insert it after the 'x': Pages and most other apps combine the two for you. You can copy and paste this between documents and it should retain its formatting when displayed in a font with full Unicode support.

The other method uses typographic controls to 'kern' a macron or overline back onto the 'x'. Type the separate characters and select them. In the Format / Text sidebar, select the wheel tool below the size for Advanced Options. Reduce the Character Spacing to bring the accent back onto the top of the 'x'. This looks great in a PDF, but the underlying text contains two separate characters.

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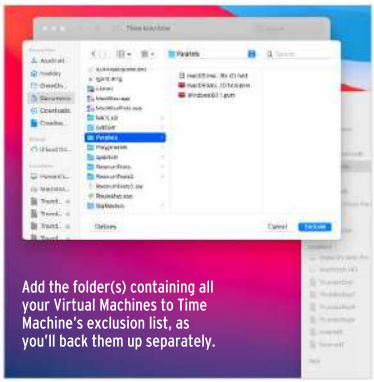
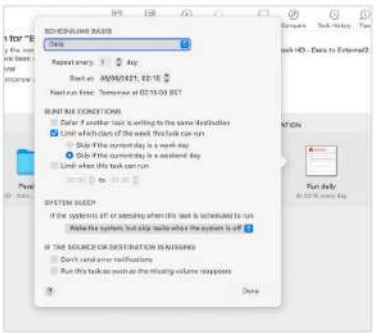


Add the folder(s) containing all your Virtual Machines to Time Machine's exclusion list, as you'll back them up separately.

Create a new task in CCC to back your VM folder up, preferably once a day when the VMs there aren't in use.



How to back up your VMs

Q **How should I back up my Parallels' virtual machines (VMs)?**

by RONNIE MCNAIR

A Don't use Time Machine, even in Big Sur, as it's optimised for hourly backups. VMs are huge, usually many gigabytes, and constantly change when in use. Although Time Machine to APFS should only copy changes rather than the whole file, by the time it's finished doing that, many will only have changed again. The backup is therefore likely to be unusable, and will consume free space on your backup storage.

You should only back up a VM is when it's not in use, for example at the end of the day. Use a tool such as Carbon Copy Cloner or SuperDuper! to make a straight copy. You probably won't want to keep many older versions, so you can economise there as well.

How to use formatted text in a Tweet?

Styling normally uses embedded fonts and styles, but tweets can contain only plain text. Textlicious from the App Store uses unusual Unicode to mimic styling, although this is disruptive to those using screen readers.

How to copy text from all websites in Safari?

Some pages block copying of text, but the plug-in StopTheMadness from the App Store changes that. Click on its icon in Safari's toolbar, and set the default options for all websites with 'Cut, copy and paste' ticked, to enable copying of all text.

Backups filling up with video clips

Q How can I stop iMovie and Final Cut Pro from filling my Mac's Time Machine backups with old edits, but still back my work up?

by PETER DE VRIES

A When Time Machine backs up to HFS+ you can clean up those backups by deleting working folders and files. Despite its strengths, when Time Machine in Big Sur backs up to an APFS volume, you can no longer change backups, only delete a complete backup. However, excluding your working folder from backups altogether would mean you'd need to make alternative arrangements, perhaps using Carbon Copy Cloner (*MF369*) to make backups of your work in progress.

There is an ingenious alternative to use with Time Machine, which exploits the fact it backs up volumes separately, and the way that APFS volumes share free space. On your normal working disk, where you'd keep your clips and edits, create a APFS volume using Disk Utility. Move the files you need for editing to that volume, then remove it from Time Machine's exclusion list so that it gets backed up.

Once you've finished editing, move just the files you want to keep from that project back to your normal working volume. You can then delete the working volume and all its backups, which should return plenty of free space to your backup storage.

Create a new APFS volume to store working files so that you can easily remove its backups when it's no longer needed.

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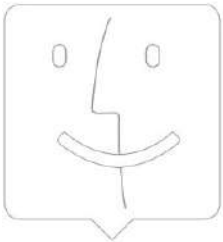


macOS

Shine a spotlight on the solutions to your most irritating Mac problems

Quick-fire questions

Should I use HFS+ on an external hard disk?

APFS is designed for SSDs, and can get slow on hard drives because of fragmentation of files and the file system itself. The common exception is backup storage for Time Machine: because its backups are added to rather than changed, APFS works well on hard disks that are only used to store backups.

How do I back up snapshots in Big Sur?

Snapshots are copies of the information inside the file system of a volume, and are saved to its container. The user can't copy them: the only software that does copy them is Time Machine, which uses them to make backups. Even cloning tools can't copy snapshots when copying volumes.

Make a custom emoji keyboard

Q I use emojis a lot, but few apps help me type them in without using the Character Viewer. How can I make a custom keyboard containing those emoji?

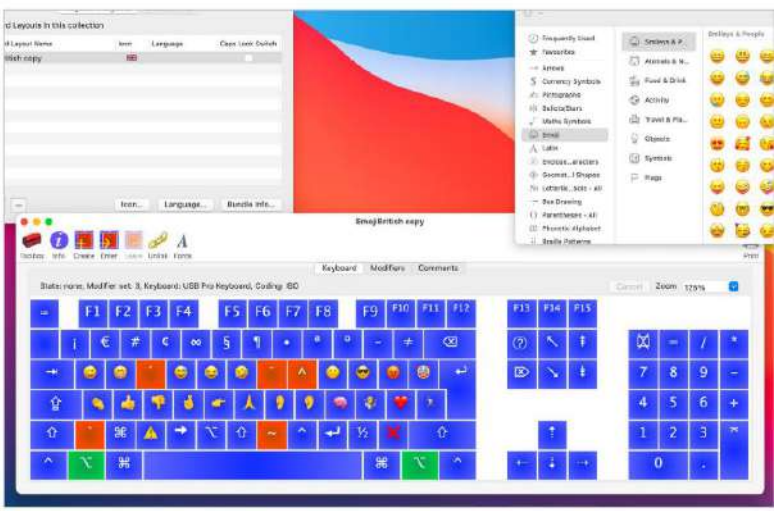
by ABI BAXENDALE

A There are two good ways to do this: create an Input Source, which is quick but requires a different way to produce the emoji, or you can make a complete custom keyboard.

Input Sources are used for languages such as Chinese where each 'character' is produced by a series of keystrokes. To use these, you'd switch to your source using ctrl+[spacebar], then type a few characters, which you've set to generate one of your emoji, such as 'egrin' for 😀, then switch back to your regular keyboard with ctrl+[spacebar] again. Your keywords and their emojis are defined in a simple text file, the Input Plug-in, which Apple explains at bit.ly/mac370inputsource.

Designing a new keyboard layout is a bigger job, but allows you to access each emoji from a key combination, such as ⌥+G producing 😀 instead of the © sign. The best app to do this is the free Ukelele from SIL at bit.ly/mac370ukelele.

With Ukelele, create your keyboard using its 'New from Current Input Source' command to start with a replica of the layout you're using. You can then drag and drop emoji and other characters from the Character Viewer window onto each key you want to customise, particularly those using modifier keys such as ⌥ and ctrl. Ukelele can then install your new keyboard, which you can switch to using the Keyboard menu in the main menu bar.



Ukelele is an excellent keyboard customiser, into which you just drag and drop from the Unicode Character Viewer.

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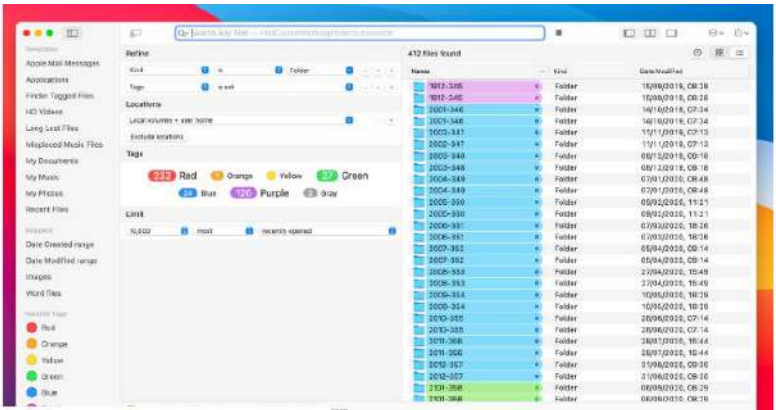


HoudahSpot is more reliable than Spotlight at certain tasks, and can save standard searches.

Better searches for folder tags

Q I have many folders tagged so that I can organise my documents better. But when I try to search for those tags with Spotlight, it can't seem to find any, even after rebuilding the index on a volume. How can I use my tags properly?

by JASON MUXLOW

A Spotlight often doesn't prove very good at finding certain items, such as tagged folders, even after you've forced it to rebuild its indexes by adding the volume to the Privacy list in the Spotlight pane, then removing it again. You can run a small suite of tests to confirm that Spotlight is working as intended using the free utility Mints from bit.ly/mac370mints, although that doesn't test tags specifically but text content.

If that gives your Mac a clean bill of health, then try HoudahSpot from houdah.com/houdahSpot/. This is a great improvement on Spotlight, which is far better at tasks, such as locating Finder tags. You can also use it to build reusable standard searches, which should prove ideal for getting the best out of your tagging system.

Why can't I open some old software CDs?

› This happens if they use an older HFS format, which is no longer supported in Catalina. A Mac running older macOS should be able to read them, otherwise check if you can download that software or its current version.

How do I change the primary contact for autofill?

› Open Contacts, select the card you want to set as 'My Card', then in the Card menu, use the 'Make This My Card' command. Next check this in Contacts, and by opening Safari's Preferences, clicking on the AutoFill tool, then on the top Edit button.

Unblock a command file

Q I created a shell script file to run a Terminal command, but when I double-click it I'm told I don't have permissions. Why not?

by CALVIN ROBERTS

A There are four different issues, which can block shell scripts from being run like this. First, its initial line should read something like

`#!/bin/zsh`

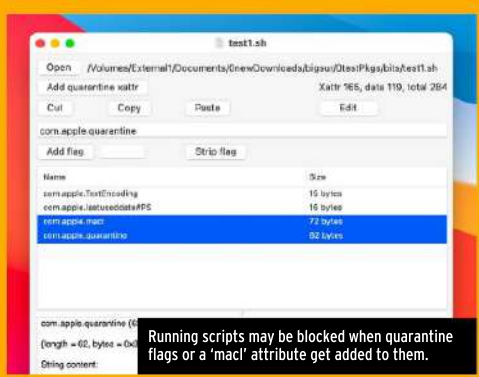
for Terminal to run it using the correct shell, which could be the default `zsh` or `bash`. You'll also need to make it executable using the Terminal command

`chmod u+x yourfile.sh`

where `yourfile.sh` is the full path and filename.

All other things being equal, that should run correctly, provided it isn't blocked by privacy protection or Gatekeeper. To address the former, add Terminal to the Full Disk Access list in the Privacy section of the Security & Privacy pane. Only leave it enabled when you need to be able to run your script from anywhere, and disable it when it's no longer required.

The final problem is the most difficult: if the script file has either a quarantine flag or a special 'macl' extended attribute attached to it, Gatekeeper may block it from being run. To remove those you may need to move the file to another volume, move it back so the attribute isn't protected by SIP, then strip those attributes using xattred, which is free from bit.ly/mac370xattred.



Running scripts may be blocked when quarantine flags or a 'macl' attribute get added to them.

› Email your queries and your questions to **genius@macformat.com**

Get set for Monterey

macOS 12 is coming to your Mac soon – here's how to make sure you're ready

Written by Howard Oakley

This year's major new version of macOS is all about consolidation rather than the deep structural changes we've seen in recent years. That doesn't mean that it's only a minor upgrade, though, and careful preparation is needed if you're going to move up and take advantage of new features, such as Universal Control to integrate your Mac and iPad or automatic text recognition with Live Text.

If you're already running Big Sur, these changes won't be dramatic. Apart from the updates to all bundled apps, pretty much everything that ran in macOS 11 shouldn't miss a heartbeat when you ask it to work in macOS 12.

Although Monterey has more polish and maturity than Big Sur, at its heart it still brings the same fundamental changes, including the 'sealed' snapshot System introduced a year ago. It remains on a different planet from Mojave: 32-bit apps can't run, and others may fail to cope with its separate read-only System volume. If you're coming to Monterey from Catalina or earlier, you'll need to make greater and deeper preparations.

If you've any doubts about committing totally to Monterey, and need backwards compatibility, consider installing it on an external drive, if you can. That will enable you to drop back to your current macOS when you need, and postpone going the whole way until you're ready. However, that still upgrades your Mac's firmware.

MacBook Pro

Back up your Mac

Backups are vital in case you lose files or need to migrate

Like insurance, backing up before upgrading is essential to ensure you don't need those backups: when an upgrade goes well, they should seem a waste of time and effort. But try skipping them, or relying on old or incomplete backups, and when something does go wrong you're likely to lose hours or days as well as some of your most important files.

Backups made before upgrading to Monterey cover three potentially sticky situations. While the installer will always try to join up the new System with your existing Data volume, that may not work out, in which case you'll need to migrate your documents, apps and other files from your copy or backup.

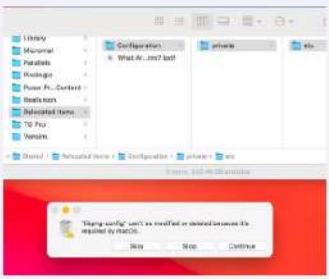
Updates also bring a lot of reorganisation, in the process sometimes dumping files into folders of relocated or rescued items. Your backup enables you to restore anything that goes missing during or after the upgrade, and to discover where any relocated items came from.

And in the unlikely event of total disaster, if you do need to abandon your attempt to upgrade and retreat to your previous version of macOS, that will only be possible using your backup.

Even Carbon Copy Cloner no longer recommends making System volume clones.

Existing backups

If you're already backing up with Time Machine to Apple's new file system APFS in Big Sur, then Monterey should try to continue making those backups in continuity, as they're fundamentally compatible. However, if you're currently backing up to storage using the Mac Extended file system HFS+, using any version of macOS, you should archive those backups, ideally by replacing your backup storage for fresh, and prepare to start a new series of backups using Monterey.



Relocated items are common, and sometimes can't be emptied from the Bin.

If you're backing up using a third-party utility, such as Carbon Copy Cloner, SuperDuper! or ChronoSync, ensure you're using the current version before you upgrade, and check its support site for information about compatibility with macOS 12 before even starting to move. Backing up to network storage also requires careful consideration,

HOW TO Back up your Data volume

1 Set the destination

Connect the external drive on which you're going to store the backup. If necessary, format it in APFS using Disk Utility. Then open the Time Machine pane, click the Select Disk button and choose your external drive.

2 Set exclusions

Click the Options button to exclude any items from the backup. Consider adding huge Photos libraries, virtual machines, and massive apps like Xcode, which could make backing up take hours or even days to complete.

3 First full backup

In a couple of minutes, Time Machine will make its first and full backup of your Data volume. It takes a long time to prepare, but once it gets going, backing up to APFS is quick if you've excluded problem items.

Image credits: ChronoSync, Bombich Software Inc

Other apps like econ's ChronoSync can make full Data volume backups, but check compatibility first.

although if you've already been doing that from Big Sur, Monterey shouldn't bring any surprises.

The question of whether you should make backup copies of the System is more complex, and depends on your Mac model. For Intel Macs without a T2 chip, apps like Carbon Copy Cloner and SuperDuper! can make potentially useful copies of the System in Big Sur and earlier. With a T2 chip, those are only usable if you change startup security options to allow booting from the external drive containing the older version of macOS.

M1 Macs are different again. Although you can clone the System to an external drive and use that to boot from, an M1 always begins to start up from its internal SSD, and it's not a wise choice to try booting from an external drive and cloning that back to internal storage. The most reliable plan with an M1 is always to use one of Apple's installers to install the System on a drive, and not rely on the process of cloning, even though that might still work.

If you've got storage available, when you've completed your backups you should have one normal backup, perhaps made by Time Machine, and a separate copy of the data on the drive you're going to upgrade, made using a different method. Those are your insurance policy: whatever you do, keep them safe until you're completely confident that the upgrade hasn't quietly done away with anything significant.

Upgrading dos and don'ts... >

> Check all your key apps are known to be compatible with Monterey before upgrading. Don't press ahead only to discover that one won't work for a couple of months yet. This applies particularly to Adobe apps and others whose update cycle lags Apple's.

Bring those key apps up to date before upgrading. If an app can't start up properly in Monterey, it's going to be harder to update later.

Ensure the disk you're upgrading has ample free space. The installer needs extra room to unpack and prepare macOS 12, and is best given a minimum of 40GB or so to work with.

If you've got time, do your housekeeping to remove old apps, duplicates, and unwanted media and other documents before upgrading. This is a perfect opportunity to ditch those movies you're never going to watch again.

4 Copy the Data volume

In Carbon Copy Cloner, create a new task with the task list icon and name it. Add the volume you're upgrading, typically Macintosh HD, as the Source, then the Destination volume. When you're ready, click Start.

5 Set excluded items

Click Task Filter at the bottom of the main window to select items you don't want included in the copy. Consider keeping separate copies of huge files like virtual machines which change constantly when in use.

6 Preview or Compare

Before copying, click on the Preview tool at the top for a full dry run if you want. When the copy is done, click on the Compare tool if you want to verify that every file has been copied across into your clone.

Refresh or reinstall?

There may be no benefit in wiping your old system and installing afresh

What can you do if something goes wrong?

Two generic solutions come in handy if you encounter any issues: on Intel but not M1 Macs, reset NVRAM by restarting while holding the ⌘+⌥+P+R keys until you hear a second chime, or for around 20 seconds.

If problems persist, start your Mac up in safe mode, let it run for a couple of minutes, then restart in normal mode.

On Intel Macs, engage safe mode by holding the ⇧ key; on an M1 Mac press the Power button until it starts loading Startup Options. Select the drive to start up from, press and hold the ⇧ key and click 'Continue in Safe Mode' underneath the drive icon.

When system and user files shared a single volume, it was often better to perform a clean reinstall when upgrading to a major new version of macOS. That ensured all the system files were in fine fettle, and any confuddling or corruption was cleaned up. Changes in startup volumes have now removed any benefits that reinstalling once had in terms of ensuring that macOS is in pristine condition.

Like Big Sur, Monterey divides your startup disk between several different volumes, the System volume containing only macOS system files, which is sealed to guarantee its integrity. That's not even used as a regular volume, but is frozen into a snapshot, and your Mac runs its system software from that snapshot, containing special firmlinks to your files, which are stored on the separate Data volume.

To create that snapshot of Monterey's system, the installer copies the system files onto the System volume and checks each by making a 'hash' guaranteeing it's correct down to every last bit. It next builds a tree of those hashes, culminating in one master hash, the Seal, to guarantee them all. It then makes a snapshot of its new System volume, ejects that volume and mounts the snapshot, which can't be changed. When your Mac starts up, its Seal is checked against Apple's, and only if they match can you log in.

Like Big Sur, Monterey's system is sealed and locked away on a snapshot.

Like Big Sur before it, this guarantees that Monterey can only run from a

HOW TO Create a fresh macOS install

1 Connect disks

If you've got sufficient ports to connect them, start by hooking up both the disk containing your backup and an empty USB 'thumb' drive of at least 16GB capacity, which you'll turn into your bootable installer.

2 One disk, two partitions

If you'd rather use just the SSD containing your backups, use Disk Utility to change its partitions and add a 50GB partition. However you create it, the installer must be formatted in Mac OS Extended (Journaled).

3 Create the installer

Follow Apple's instructions at support.apple.com/HT201372 for typing the correct command into Terminal to run the command createinstallmedia in the Monterey installer app, turning your drive or partition into a bootable installer.

perfect and identical copy of the system. Thus erasing your existing System volume does nothing to make the upgrade any better or more reliable.

Clean reinstall

You can still start your Mac up from a bootable installer disk and install a completely fresh startup volume group, but the effect is then more on your own Home folder, Applications and Library folders rather than on macOS itself. It also inevitably increases the risk of losing files in the process.

This is because a clean reinstall also wipes your Mac's Data volume, which you then need to reconstitute by migrating your apps and Home folder from your backup or a copy of the Data volume. Before even considering doing this, you must be absolutely confident that your backups will prove reliable, and that the migration will work as you expect.

If your Mac is an Intel model with a T1 or T2 chip, you'll also need to take a quick trip into Recovery mode before you start. There open Startup Security Utility and enable your Mac to boot from external media, or it won't be able to start up from the external bootable installer disk at all. You don't do that on an M1 Mac, though.

A clean reinstall can be a good if time-consuming way to help remove accumulated dross on a Mac which has been upgraded and migrated along a chain from older Macs. It may be the best approach to clearing out old kernel extensions, and redundant folders from the main Library folder.

However, it can also make life more complicated as some older extensions, particularly those which don't meet current security criteria, may stop working. If you rely on an old external RAID storage system, for example, that could prevent you from accessing that peripheral altogether. If you're not confident it will work in your interest, don't even try it.

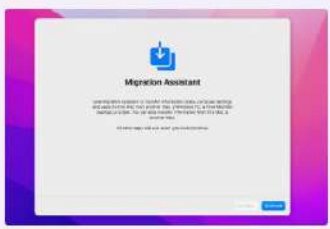
Old RAID drives won't work if their extensions are blocked by macOS 12.

4 Boot from the installer

On Intel Macs, restart with ⌥ held and select your installer to boot from. On M1 Macs, start up in Recovery, select the installer disk and click the Continue button underneath to start up from that.

5 Erase the volume group

Once the installer has loaded, switch to Disk Utility, select the System volume to upgrade, and click the Erase button. In this dialog, click the Erase Volume Group button to wipe both of the existing System and Data volumes.



6 Migrate from backup

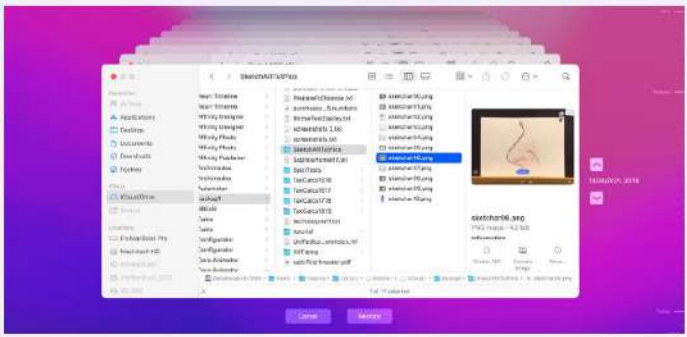
Install Monterey from the installer. When it prompts you to migrate from your backup or a copy of your Data volume, you can either do that, or create a fresh user, migrating later using the assistant or manually.

Welcome to macOS Monterey

Not all Macs get the same new features, and you need an M1 to get the lot

As long as you're already familiar with using Big Sur, with its new human interface, you'll notice relatively little change in design, layout or controls in Monterey. If you're coming from an older version of macOS, you may be shocked to discover what's happened, particularly in the top of windows. Small windows with lots of tools can make it hard to find anywhere that's safe to use to drag the window around, but you'll develop that skill in time.

New features depend on the Mac model you've upgraded. M1 users do best of all, getting the whole set, but if your Intel Mac only just made the cut for macOS 12, you may not get Universal Control, and there's uncertainty over support for AirPlay to Mac too. On Intel Macs, Object Capture is limited by installed memory and the graphics card: your Mac will need at least 16GB of RAM and a graphics card with at least 4GB of VRAM to be able to use this new feature. Continuous Dictation and its related features are also not available on any Intel models. If you're unsure whether your Mac should support any given feature, check the fine print on Apple's detailed list of features in Monterey before wondering why something doesn't work.



Time Machine will also try to keep backups of what's in your iCloud Drive.

Side effects

Monterey doesn't bring any major reorganisation of iCloud if you're upgrading from Big Sur, and accessing documents in iCloud Drive should continue to work with older macOS too, even if you've put your Desktop & Documents folders into iCloud.

If your Mac was already backing up using Time Machine to APFS in Big Sur, then it should continue to do so, although its first backup after upgrading is likely to take its time. That isn't because of the changes in your System volume, which isn't backed up, but in those parts of macOS stored on the Data volume.

HOW TO Get your Mac up and running againl ›

1 Reset the NVRAM

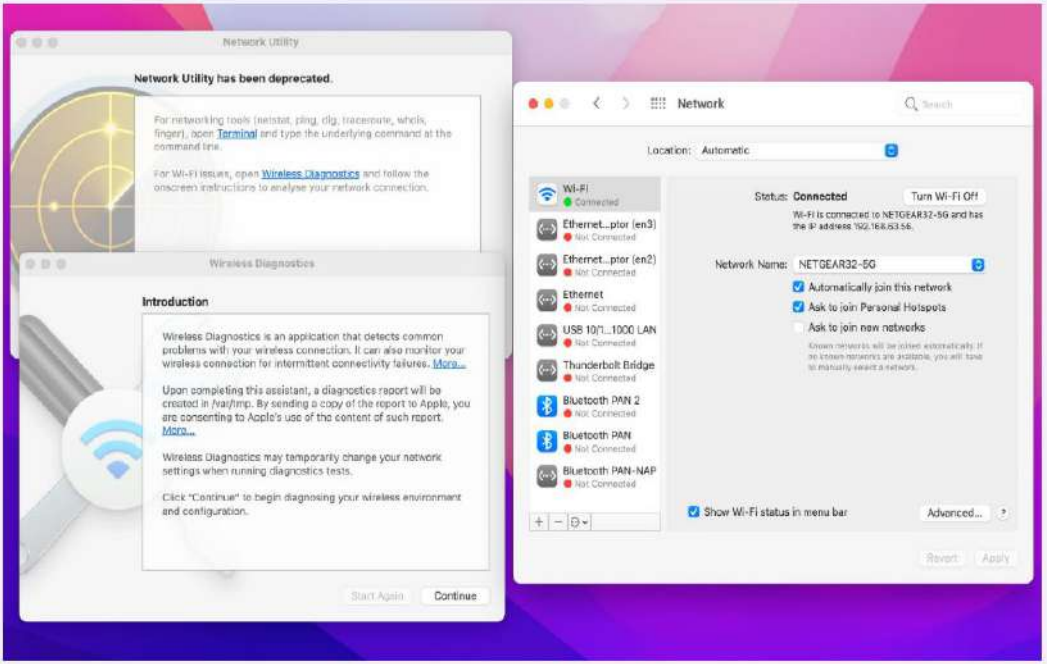
If an Intel Mac is generally out of kilter when you log into Monterey, try resetting the NVRAM by holding ⌘+⌥+P+R during startup. Unfortunately there's no equivalent procedure for M1 Macs.

2 Start up in safe mode

Another general panacea which fixes many glitches is to start up in safe mode. The ⇧ key does that for Intel Macs, but M1 models need to enter it through Recovery, using the ⇧ key with the selected disk.

3 Boot from another disk

If your Mac has more serious problems after upgrading, and you have an external drive which can start it up, that can be an alternative to booting into Recovery mode. Tread gently or you could cause more problems.


Network Utility
Network Utility has been deprecated.
For networking tools (netstat, ping, dig, traceroute, whois, finger), open Terminal and type the underlying command at the command line.
For Wi-Fi issues, open Wireless Diagnostics and follow the onscreen instructions to analyse your network connection.
Wireless Diagnostics
Introduction
Wireless Diagnostics is an application that detects common problems with your wireless connection. It can also monitor your wireless connection for intermittent connectivity failures. More...
Upon completing this assistant, a diagnostics report will be created in /var/tmp. By sending a copy of the report to Apple, you are consenting to Apple's use of the content of such report. More...
Wireless Diagnostics may temporarily change your network settings when running diagnostics tests.
Click "Continue" to begin diagnosing your wireless environment and configuration.
Start Again
Continue
Network
Location: Automatic
Wi-Fi
Connected
Ethernet...ptor (en3)
Not Connected
Ethernet...ptor (en2)
Not Connected
Ethernet
Not Connected
USB 10/1...1000 LAN
Not Connected
Thunderbolt Bridge
Not Connected
Bluetooth PAN 2
Not Connected
Bluetooth PAN
Not Connected
Bluetooth PAN-NAP
Not Connected
Status: Connected
Turn Wi-Fi Off
Wi-Fi is connected to NETGEAR32-5G and has the IP address 192.168.63.56.
Network Name: NETGEAR32-5G
Automatically join this network
Ask to join Personal Hotspots
Ask to join new networks
Known networks will be joined automatically. If no known networks are available, you will have to manually select a network.
Show Wi-Fi status in menu bar
Advanced...
Revert
Apply

If you need to diagnose networking glitches, use Wireless Diagnostics, not Network Utility.

Remember that the version of macOS installed in Recovery mode will change once you've installed Monterey. You can't use it as a way of downgrading macOS, as it'll just install macOS 12 again.

Apple is almost certain to release a full set of updates to its apps from Pages to Final Cut Pro, which will await you in the App Store app once your upgrade has completed. Allow ample time for these to download and install, as in total they could exceed the size of the Monterey installer.

You should also find upgrades to iOS and iPadOS 15, watchOS and tvOS at about the same time. These may be required to ensure that integrations including Universal Control work properly, or to use your Watch to unlock your Mac reliably. Unless you have very good reason not to, ensure your iPhone and iPad are upgraded promptly, remembering to back them up thoroughly first.

If you have more than one Mac, the decision to upgrade that may be more difficult. Running an older version of macOS there could prove a lifeline in the event that one of your more important apps runs into trouble in Monterey, but it can also add friction between the two systems, although AirDrop should still work reliably across different versions.

System files cannot be copied to the current startup disk
To avoid system instability, CCC will exclude system files from this task.
If you're migrating content from an older system, you should use Migration Assistant to facilitate the transfer. Click the "?" button for additional guidance.
OK

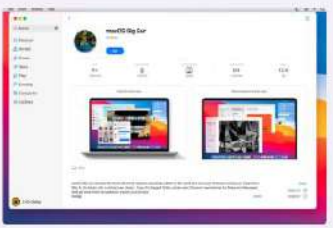
4 Repair the Data volume

Replace broken files or folders from your copy or backup in the Finder. You can restore all your files on the Data volume, but to restore any system files from there you'll need to start up from another disk.

You won't be able to restore system files to your current startup disk.
You can restore user data to your startup disk, but if you're trying to restore system files, you should boot your Mac from the backup volume first.
Cancel
Create Restore Task

5 Restore a snapshot

Both Time Machine and Carbon Copy Cloner make snapshots, which you can use to revert your Data volume to an earlier state. To do this you'll first need to restart from an external drive and restore from there.



6 Revert as a last resort

Rolling back to your old macOS should be a last resort, as it will be long and painful. Find the full installer, preferably on the App Store, then use that to perform a clean install, as explained for macOS 12.

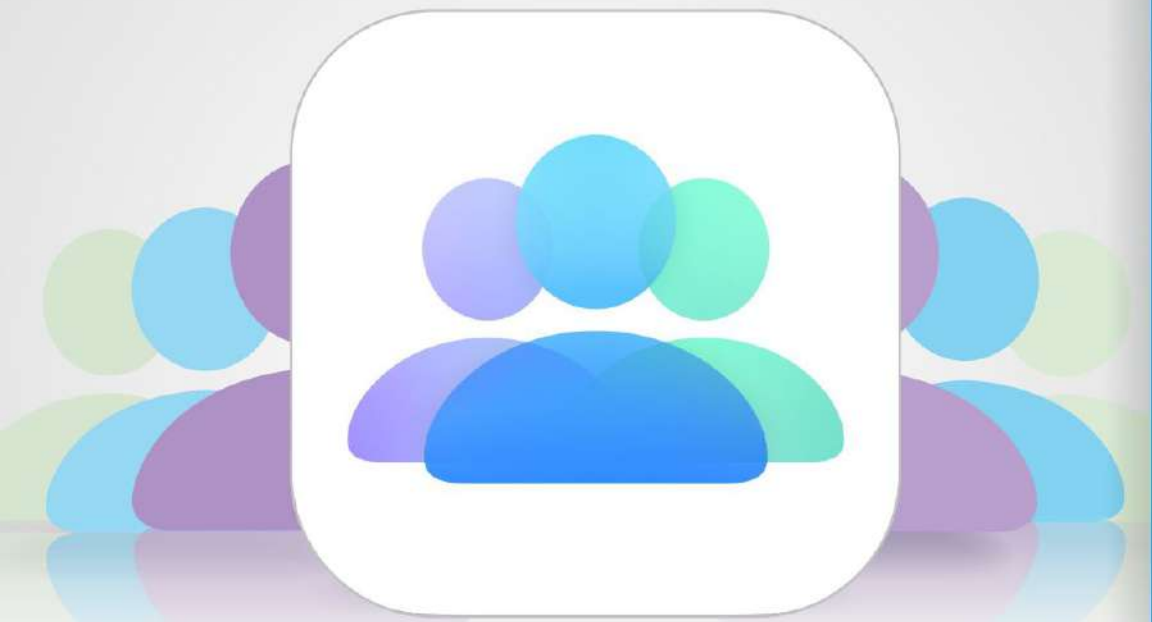
Start a 30-day digital trial

and get an issue for free*

In iOS 11 or later, point the Camera app's photo mode at this QR code to download our app.

*First-time digital subscribers only.

Download on the App Store



Play happy families with Apple's Family Sharing

You have stuff! You have people! Let's bring them together!

WRITTEN BY **CARRIE MARSHALL**

If your family is an Apple family, you're going to love Family Sharing. It enables you to share all kinds of things with your household, and it can save you lots of money: other family members can access your app and content purchases without having to buy them again, and if you have family-friendly Apple subscriptions to services such as Apple Music, Apple TV+ or an Apple One bundle you can share those too. Some third-party app subscriptions also support Family Sharing.

Family Sharing enables you to share your purchases and subscriptions with up to five other people in your household, and each family member can authorise up to 10 devices each.

In addition to sharing content and apps, Family Sharing has some other useful features. You can set up Ask To Buy to make sure nobody buys apps or content without your approval, and you can also use Apple's brilliant Screen Time parental controls to help keep your home harmonious and your Apple devices age-appropriate.

In this feature we're going to use macOS Big Sur, but Family Sharing applies to Macs running OS X Lion 10.7.5 or better, iOS devices going back to the iPhone 3GS and iOS 5, and on Windows 7 or later. However, to actually set up Family Sharing you'll need to be using macOS Yosemite/iOS 8 or later.

Family Sharing
Share purchases with your family
Allow everyone in your family to share each other's media, books and apps purchases without sharing an account.
Share My Purchases
Apple TV+
Apple Music
Apple Arcade
Apple News+
Location Sharing
Save money by purchasing apps and subscriptions once, then sharing them with your family.

Share your stuff

Share your storage, your subscriptions and even your apps with the family

The 'sharing' bit of Family Sharing is obvious – it shares your iCloud storage, purchases and eligible subscriptions – but what about the 'family' bit? As far as Apple is concerned, a family group can be up to six people, each of whom can be authorised on up to 10 devices. Your family members don't need to share the same physical location, genes or surname, but they do all need to have or sign up for an Apple ID.

Here's how it works. One person – that's you! – is the Family Organiser, and that person invites other family members to join their family group. You can only run or be in one family group at a time, although you can transfer accounts from one group to another. That's useful if you're sharing with lodgers or housemates who you only want to be temporary members of your group. You can remove people from your family group at any time you choose unless they're under 13: if they are, the only way to remove their account is to transfer it to another group or to log in as them and delete their Apple account.

EXPLAINED... Family Sharing interface

1 Family Organiser
› That's probably you. There can only be one nominated organiser per family group.

2 People picker
› Click on this link if you want to add or remove family members from your family group.

3 Shared subscriptions
› This shows what services and features are being shared with your family members.

4 See who's sharing
› Click on a shared item to see what it is and who you're sharing the service with.

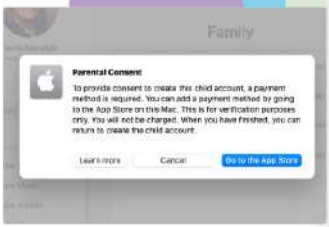
HOW TO Set up Family Sharing

1 Invite everyone

You can set up family sharing for your iCloud services on your Mac or your iOS/iPadOS device. We'll stick with the Mac here. Go into System Preferences > Family Sharing and click on the '+' icon to add people to your Apple family.

2 Send your request

If the person you're adding already has an Apple ID, you can send them an invitation via Mail, Messages, AirDrop or Invite In Person. That latter option then asks the person to sign in using their Apple ID on your Mac.



3 Create an account

If you have children aged 13 or under and they don't already have Apple IDs, you can set up a child account here. You'll need to have a valid credit or debit card to verify your identity: this is to stop other people adding your kids.

4 Enter your code

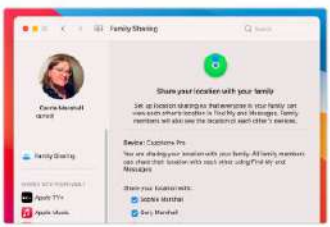
You'll now be asked to enter the three-digit code from the back of your payment card. Sometimes this is buggy, so if you find that the Family Sharing setup crashes here you can create the account on your iPhone or iPad instead.

5 Get their Apple ID

Now we need to enter the child's name, date of birth – this will be used for content restrictions and service sharing, which we'll look at in detail over the page – and decide on their Apple ID and password.

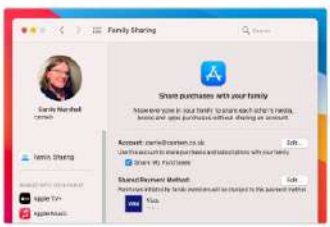
6 Share Your Stuff

The iCloud services you can share will depend on what ones you have a family subscription to. Here we've got the full Apple One Family subscription, so we can share not just Apple Music and TV but Fitness, Arcade and News+ too.



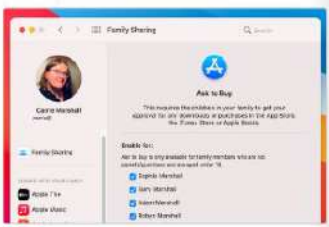
7 Hide from everyone

If you click on the items in the Family Sharing sidebar you can turn some services on and off for specific family members, so for example you can decide which family members you want to share your location with.



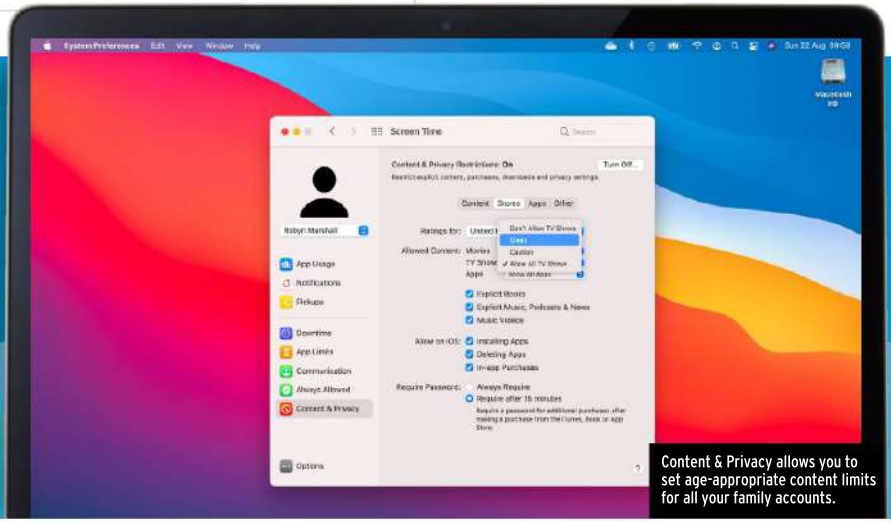
8 Share your purchases

If you wish you can share your purchased apps and media with your family, which means they can download them without paying again for them. You can use your stored payment method to pay for their downloads too.



9 Protect your wallet

Enabling the Ask To Buy feature is a very good idea; it means that any time a family member wants to buy an app, a subscription or in-app items you have to approve the request. This is really important for younger kids.



Content & Privacy allows you to set age-appropriate content limits for all your family accounts.

Make kids' devices safer

Better bedtimes, healthier habits and clean content

As parents we know just how much kids love Apple devices – and unfortunately we're also well aware of the problems that can cause. Hands up if you've ever had to hide the family iPad, changed the Wi-Fi password without telling the kids or discovered an inappropriate item or app on a family device? Us too, which is why Screen Time is so useful when you've got Family Sharing set up on your iCloud account.

Screen Time enables you to set per-person restrictions and time limits, and as we'll discover it has lots of useful options that give you a great deal of control over your children's Apple experience. You can use it to encourage better bedtimes by limiting the times when apps can be used. You can use it to block certain kinds of communications or disable entire apps. And you can apply content restrictions so the kids can't see, hear or read stuff that isn't age-appropriate when they're using Apple's own apps and the App Store.

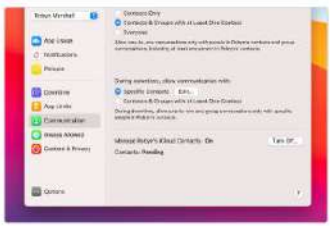
HOW TO Use Screen Time for your family ›

1 Choose your child

When you go into System Preferences › Screen Time, you'll see the settings for your own account. To change that, click on the drop-down underneath your picture and select someone from the list of family members.

2 Decide on Downtime

Downtime enables you to set time periods where only certain apps and calls are allowed, so for example you might want to disable inessential apps when it's time to get ready for school, or when they usually do their homework.



3 Configure comms

The Communication link enables you to specify who can communicate with your child via Phone, FaceTime and Messages. If you limit communication to specific contacts you'll always be included in the list.

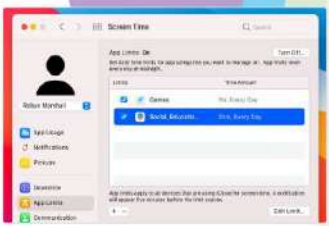
HOW TO Set limits on apps >

1 Choose a category

Click on App Limits and on the '+' button to create a new limit. This is category-based, and if you've created a new Apple ID for your child the Daily Average column and categories will currently be empty.

2 Add the limit

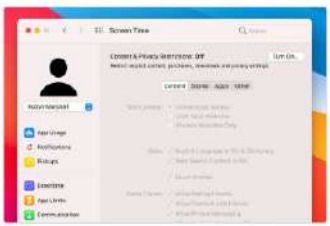
Pick the category you'd like to limit screen time for, set the limit and Apple will automatically apply those limits to any new apps in that category (and any existing ones if you're working with an existing Apple ID).



3 Add more limits

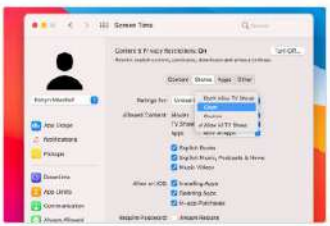
App Limits are really flexible, and you can have different limits for different kinds of apps – so for example you might have a one hour daily limit for games but allow longer for educational apps or chat apps.

HOW TO Make content age-appropriate >



1 Enable restrictions

Click on the last link in the sidebar, Content & Privacy. Here you can set age restrictions on a per-account basis, so you can have stricter limits for younger children or more generous ones for older kids.



2 Keep it clean

There are lots of options here: filtering books, music, news and podcasts (in Apple's own apps and stores), limiting in-app purchases on iOS, blocking any Apple TV content that isn't rated 'Clean' and so on.

3 Switch off apps

The Apps tab is really useful, because it enables you to turn off some of the standard apps – so you might want to switch off the Camera app, or News, or FaceTime. It's also good to see disabling AirDrop as an option here.

Expanded Protections for Children

At Apple, our goal is to create technology that empowers people and enriches their lives — while helping them stay safe. We want to help protect children from predators who use communication tools to recruit and exploit them, and limit the spread of Child Sexual Abuse Material (CSAM).

Apple is introducing new child safety features in three areas, developed in collaboration with child safety experts. First, new communication tools will enable parents to play a more informed role in helping their children navigate communication online. The Messages app will use on-device machine learning to warn about sensitive content, while keeping private communications unreadable by Apple.

What Apple watches

Is Tim Cook intercepting your iCloud? >

In recent months there has been a rash of stories about Apple's approach to identifying and removing horrific illegal content from its services, and that has led to concerns that Apple is scanning people's iCloud Photos for illegal images. At the time of writing Apple doesn't scan iCloud photos or backups, although it does scan incoming and outgoing iCloud email attachments. Many cloud services do scan everything, not just for illegal images but for anything that breaks their terms of use.

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- Edit your home videos with iMovie

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- The evolution of Apple TV
- Get started with Keynote
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- NEW APPLE KIT TESTED: iMac 24in, iPad Pro 12.9in, Apple TV 4K
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A truly exceptional product. Award given solely at the discretion of the editor.

Mac FORMAT BEST ON TEST

The best example of its kind when pitted against comparable products.

★★★★★
A brilliant thing

★★★★☆
Strongly recommended

★★★☆☆
Worth considering

★★☆☆☆
Notable flaws

★☆☆☆☆
A waste of your money

78
XGIMI Horizon Pro 4K Projector

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XGIMI Horizon Pro

Premium projector with impressive 4K image quality (and Android)

› **£1,699** › **FROM** XGIMI, uk.xgimi.com › **FEATURES** 4K projector (3840x2160), 2200 lumens, Android TV, dual-band Wi-Fi, Bluetooth, Ethernet, 2x HDMI, 208x218x136mm, 2.9kg

The Horizon Pro runs Android, but it's still easy to connect Apple devices via HDMI.

The Pro's automatic focus and keystone correction work a treat

The cinemas may be open again, but if you're still a bit wary of watching a film with a couple of hundred people breathing over your shoulder, then you could consider buying a projector to set up your own personal home cinema system.

Admittedly, XGIMI's Horizon Pro is very much a high-end option, costing a whopping £1,699. However, it offers 4K resolution (3840x2160), with dual-band Wi-Fi, Ethernet and Bluetooth connectivity, and many other features. It's worth pointing out, though, that the Horizon Pro uses Android TV as its operating system. That may deter some Apple-centric households, but does ensure that the projector can run a wide range of Android apps for streaming music and video. It also supports Google Assistant voice commands and Chromecast streaming – but not AirPlay or Siri for Apple devices. There are Android apps that claim to support AirPlay streaming, but we can't guarantee how well those will work, and there are rival projectors that have AirPlay built-in for use with Apple devices.

The Horizon Pro does have two HDMI ports, though, and we had no problems connecting an Apple TV 4K and an iPad with Apple's Digital AV adaptor. There are also two USB 2.0 ports for playing files stored on a memory stick or external drive, and 3.5mm and optical audio outputs for using headphones or external speakers.

The automatic focus on the Horizon Pro ensures a crisp image even when placed on an unsteady surface.

High-quality picture

Getting started is very easy – although the need to both provide your own batteries for the remote control and to sign in with a Google account is irritating. However, the projector's automatic focus and keystone correction work a treat, and coped easily when I placed the Horizon Pro on a wobbly pile of books on a coffee table. Image quality is outstanding (as it should be at this price), impressively sharp and colourful when playing a series of 4K films from the iTunes Store, and the 16W Harman Kardon speakers prove surprisingly powerful too. XGIMI says that the Horizon Pro can create an image up to 7.62m in size diagonally, but you'd need a pretty large room – or garden – to achieve that. In our more modestly-sized lounge, we were able to get an image 2.54m diagonally from a distance of about 3m. The 2200 lumens projector isn't quite bright enough to watch in daylight hours, so you'll need blackout blinds or just wait until nightfall to fire up your favourite films.

It's seriously expensive, of course, and the reliance on Android and Google technologies – and lack of Apple tech such as AirPlay – could well be a deal-breaker for some people. However, the impressive image quality of the Horizon Pro, and its automatic set-up features, are hard to fault for anyone that wants to create their own personal cinema experience at home. **Cliff Joseph**

Mac FORMAT VERDICT

› It's crazy expensive – and runs Android – but the Horizon Pro is one of the best home projectors we've seen.

★★★★☆

⊕ Outstanding 4K image
⊕ Good connectivity
⊖ Costs a fortune
⊖ Uses Android

› Image credit: XGIMI

Anker Apex Thunderbolt 4 Dock

Power and ports galore

› **£280** › **FROM** uk.anker.com › **FEATURES** 90W MacBook charging, 20W Power Delivery, triple 4K display support

Portable but solid, the dock comes with a 120W external power supply.

Anker's latest dock for Intel MacBooks comes with a 120W external power supply and Thunderbolt 4 cable, which carries both data and up to 90W of power. It also supplies 20W to its USB-C port with Power Delivery, so you can charge your Mac and iOS device at full power at the same time.

In addition to the main Thunderbolt 4 and USB-C port on the front are an audio jack, a power button and an SD card 4.0 UHS-II slot for fast data transfers. The rear has four USB-A ports; two USB 2.0 and two USB 3.0, all powered suitably for charging smaller devices, and a Gigabit Ethernet port.

Then there's a second Thunderbolt 4 port, providing 15W of power and 40Gbps data. But it can also drive a 5K monitor at 60Hz when one external display is connected. And then two HDMI ports, both of which can drive a 4K display at 60Hz. So you can drive up to three monitors in addition to your MacBook's display, all at 4K (60Hz). Windows offers single monitor support up to 8K, but is slightly slower. macOS is also only able to mirror content across its two HDMI ports where Windows can use them independently, but again this is down to the OS, not the dock.

This is a compact dock that provides more than enough expandability for the majority of MacBook owners, though it's a big investment. **Hollin Jones**

Mac FORMAT VERDICT

› A great power and expansion solution for Intel MacBooks.

★★★★☆

⊕ Powers multiple devices

⊖ Tops out at 5K on macOS

Apogee Duet 3

High-end audio recording

› **£599** › **FROM** apogeedigital.com › **FEATURES** 192kHz recording, Symphony ECS Channel Strip › **NEEDS** macOS 10.15 or later, USB-C

The Duet 3 combines gorgeous design with high-quality recording.

The Duet 3 is the newest member of Apogee's pro audio family, a supremely portable high-end audio recording interface for Mac and PC, though iOS is not supported. Beautifully constructed, its low profile is decidedly Apple-like. It has two USB-C ports and is bus-powered, the second port being usable for external power if you'd rather not power from your Mac. USB-C and A cables are supplied.

To maintain its compact frame, I/O is mostly handled via a breakout cable. The proprietary plug splits off to two instrument inputs and two line outputs as well as two mic/line inputs in XLR format. A headphone output can be found on the body. So despite its small size you can connect stereo monitor speakers and up to four mono or two stereo inputs at once. Inside are converters and preamps with up to 65dB of gain.

Duet 3 also has onboard digital signal processing (DSP) circuitry which it uses to power the ECS Channel Strip, a plug-in you install in your digital audio workstation (DAW) to tweak compression and EQ during recording. The processing done on board the Duet means this is latency-free, so recordings are crystal clear. Although the large multifunction dial and LED meters are perfectly good, Apogee Control software running on your Mac also provides in-depth control over every parameter, making life simpler. It's not cheap, but the Duet 3 represents the pinnacle of portable recording at the highest quality. **Hollin Jones**

Mac FORMAT VERDICT

› Superb design and audio quality in a portable package.

★★★★☆

⊕ Excellent recording quality

⊖ Pricey for 4x2 I/O

› **Image credit:** Anker Technology (UK) Ltd, Apogee Electronics Corp

Nothing Ear (1)

Nothing to write home about

› **£99** › **FROM** Nothing, nothing.tech › **FEATURES** Bluetooth 5.2, Hybrid Active Noise Cancelling, touch controls, up to 34 hours battery life (headphones and case, ANC off), wireless charging car (QI wireless charging compatible), USB-C port, splashproof to IPX4, needs iOS 11 or later

The see-through design doesn't quite go far enough, and we would have liked to have seen more transparency.

The noise cancellation left a lot to be desired, and we could hear every click-clack of our keyboard

Mac FORMAT VERDICT

› The Nothing Ear (1) don't quite live up to the hype, but they are very comfortable.

★★★☆☆

⊕ Comfortable to wear
⊕ Responsive controls
⊖ Tinny, quiet sound
⊖ Poor noise cancellation

The Nothing Ear (1) burst onto the market after months of hype as the first true wireless earbuds from OnePlus co-founder Carl Pei's new company (with backing from iPod creator Tony Fadell). What's more they've been pitted as a more affordable rival for the Apple AirPods Pro.

Sadly, the Ear (1) haven't quite lived up to the hype. While they boast a transparent design that shows off the inner workings of the earbuds and charging case, Nothing hasn't taken the concept far enough for the wireless earbuds to really make an aesthetic impact.

However, these earbuds are immensely comfortable to wear, and their touch controls are reliable and responsive. But when it comes to audio performance, we found the buds to be tinny and quiet – although we appreciated the detail in the higher frequencies.

The noise cancellation leaves a lot to be desired, too. With the Active Noise Cancelling (ANC) on its highest setting and our music playing at full volume, we were still able to hold a conversation with someone in the same room, and we could hear every click-clack of our laptop's keyboard.

Power up

The battery life is pretty good. You get about 34 hours in total with ANC switched off (24 hours with ANC on) and you can easily see how much battery you have left via the accompanying app. The app also lets you toggle through the noise-cancellation modes and equaliser presets, and assign the touch controls to different actions. Plus, you can also use it to 'ring' your earbuds if you've lost them, as well as download firmware updates.

The charging case is large in size, but so is the battery life with 34 hours of juice on tap with the ANC switched off.

The Connectivity with these earbuds could be better. While the earbuds come with Bluetooth 5.2 support, we encountered lots of issues with pairing and experienced some (infrequent but annoying) bouts of dropout.

Control-wise the earbuds' stems are touch sensitive, allowing you to access music playback and settings without digging out your phone. It's a double tap to play/pause, a triple tap to go to the next track, tap and hold to switch between the noise-cancellation modes, and you can slide your finger up or down the stem to adjust the volume of your content, too. Saying that, executing this action was a little fiddly, and it sometimes felt like it would make the earbuds fall out. But overall the controls worked well, and were responsive – and there's also an auto-pause feature, so taking out your earbuds will stop your music automatically.

The charging case is square and flat, with a flip-top design that closes with a satisfying snap. It's much larger than the Apple AirPods case, but the top come with a handy indent to fit your thumb into. Each earbud slot features a dot (red or silver) that corresponds to the dots on the back of each earbud's stem, while on the side of the case is a pairing button and a USB-C charging slot.

While comfortable to wear, and with excellent battery life too, we do wish these Nothing Ear (1) were something greater – but then we all know it's true that you can't create something from nothing...

Olivia Tambini

› Image credit: Nothing

OWC Travel Dock E

A great USB-C hub for your travels

› **€65** (about **£56**) › **FROM** OWC, owcdigital.com › **FEATURES** 1x Gigabit Ethernet port, 1x USB-C passthrough (100W), 2x USB 3.2 (5Gbps), 1x HDMI port, 1x SD card reader, 15cm USB-C cable with stowaway groove, 174g weight

Mac FORMAT VERDICT

› The Ethernet port is a welcome addition, making this a top USB-C travel dock for your Mac.

★★★★★

⊕ 100W passthrough and Ethernet
⊖ Short USB-C cable

As Apple charges towards USB-C everything, alternative ports are getting harder to find on its devices. But you might still need USB-A peripherals, Ethernet cables, and more. In that case, you need a hub, and OWC's Travel Dock E is a good one.

This device adds a Gigabit Ethernet port to the company's regular Travel Dock. It also comes with two USB 3.2 ports (running at 5Gbps), an HDMI 2.0 port supporting 4K at 60Hz, an SD card reader and a USB-C passthrough port that provides 100W of power. It's one of the only hubs with both Gigabit Ethernet and 100W of passthrough power, in fact.

It all comes wrapped in a sturdy aluminium and plastic chassis that feels like it can take a beating. Combined with its handy stowaway groove for the USB-C cable, it's well designed for travel.

The only real problem is that USB-C cable. It's very short – just 15cm at a stretch. That's fine with a MacBook or Mac mini, but on desktop Macs you might find the hub doesn't sit flat on the ground. But then, this isn't aimed at desktops.

The dock is one of the only ones to feature both 100W passthrough power and an Ethernet port.

The ideal port arrangement in a hub depends on your needs, but if you want Ethernet, then this is a great choice. Its slot selection and 100W passthrough power also make it attractive for your travels. OWC's free Dock Ejector app that safely dismounts the hub is the cherry on top. **Alex Blake**

Twelve South ActionSleeve 2

Tackle Apple Watch workout worries

The ActionSleeve 2 is machine washable so won't be fazed by even the sweatiest workout.

› **$39.99** (about **£29**) › **FROM** Twelve South, twelvesouth.com › **FEATURES** Velcro strap, polyurethane fabric, plastic Watch shell, Digital Crown access

Mac FORMAT VERDICT

› Lets you work out worry-free, but you'll probably have to adjust its fit through the day.

★★★★☆

⊕ Mostly accurate readings
⊖ Hard to remove Watch

There are some activities where having an Apple Watch on your wrist is potentially a recipe for disaster – think boxing or physical labour. Twelve South says it has the solution with its ActionSleeve 2, a band that hoists your Watch (minus straps) up onto your arm and protects it in a plastic sheath.

We tried the ActionSleeve 2 during our regular weights session. Workout tracking was good, with metrics like average heart rate and calories burned in line with what we normally see. Having the Watch high up messed with its stand tracking, though, and it gave us points even when we were sitting.

As for comfort, the ActionSleeve 2 uses non-allergenic polyurethane to prevent rubbing and irritation. During a workout we felt its presence more than a standard Watch strap, but it was not a problem. It became a little uncomfortable after the workout and needed some adjustment, and you'll know it's there if you wear it all day. We also felt a little nervous removing the Watch, as this involves pressing quite hard on its face to remove it from the sleeve.

If you often remove your Watch to prevent it getting damaged, the ActionSleeve 2 is a good solution that means you can continue tracking your activity. It's not perfect, but it's better than a smashed Apple Watch. **Alex Blake**

› **Image credit:** Other World Computing Inc, Twelve South LLC

GameSir F8 Pro Snowgon

Losing its cool with iPhone 12

› **$39.99** (about **£29**) › **FROM** GameSir, gamesir.hk
› **FEATURES** Fan with cooling pad, controller-style grip, built-in joystick, kickstand

The F8 Pro Snowgon's joystick feels cheaply made and isn't much use.

Mac FORMAT VERDICT

› A neat idea, but its fan speed issue limits its use with iPhone 12 and future devices.

★★☆☆☆

⊕ Comfortable grip
⊖ Must always be plugged in

Apple's iPhones are adept at handling games, but after a while they can get hot, and that in turn can impact performance in the long run. GameSir's F8 Pro Snowgon is an attempt to combat that. It's a controller-style mount for your iPhone that has a small fan strapped to its back. This cools a silicone pad which in turn presses on your iPhone and lowers the temperature. It's not just for games either, as the included kickstand is also handy for viewing content while avoiding the heat.

There's a problem, though. Whenever we mounted our iPhone 12 Pro, the fan speed dropped dramatically and often stopped. GameSir told us this was due to the iPhone's magnetic ring interfering with the magnet inside the fan. Seeing as recent iPhones need these magnets for MagSafe to work, that doesn't bode well for the F8 Pro's compatibility with iPhones going forward.

Undeterred, we tried an iPhone 11 instead – and there the Snowgon helped us keep our gaming cool while playing Call Of Duty Mobile and when movie watching, and the grip certainly made handheld gaming easier, although the joystick felt simultaneously stiff and flimsy. It was of little use during gameplay – in fact, we quickly learned to live without it. The built-in fan also relies on a tethered connection via a USB-A to USB-C cable.

Judging by how cold the F8 Pro's pad gets it could be a great device. Unfortunately, its compatibility issues mean it gets a frosty reception. **Alex Blake**

Trust Smart LED Bulbs

Wi-Fi connectivity at a low price

› **£20.99** › **FROM** Trust, trust.com › **FEATURES** 2x multicolour LED bulbs, 2.4GHz Wi-Fi, 806 lumens, 15,000 hours bulb life

These multicoloured bulbs can be controlled from your iPhone or iPad.

Mac FORMAT VERDICT

› Affordable smart bulbs with Wi-Fi connectivity.

★★★★☆

⊕ Great value
⊖ No HomeKit or Siri support

There are lots of affordable smart bulbs that can be controlled via Bluetooth on your iOS devices, but Bluetooth does have limitations – including, of course, a range of just 10m. Wi-Fi is a more flexible way of controlling your lights, providing additional features such as remote control when you're away from home. Wi-Fi bulbs tend to be a lot more expensive though, so we were pleased to find that Trust's new range of Wi-Fi LED bulbs starts at just £16.99 for two white bulbs, or £20.99 for the multicolour bulbs reviewed here. The bulbs are available with both bayonet and screw fittings, and provide 806 lumens brightness (comparable to 60W for ye olde, pre-LED light bulbs).

Getting started is easy, as the app can automatically detect the bulbs and connect them to your home network – although your device will need to connect to the 2.4GHz band on your network during the initial installation process, as the low-cost bulbs don't support 5GHz. The app allows you to adjust colour and brightness, and to control multiple bulbs in groups. The bulbs work with the Amazon and Google voice assistants but, sadly, there's no support for Siri or HomeKit (not at this price). Even so, the competitive price and easy set-up of the bulbs makes them a good way of getting started with smart lighting at home. **Cliff Joseph**

› Image credit: GameSir, Trust International BV

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THE BEST COMPACT STANDS FOR MACBOOK

Elevate your MacBook wherever you go

Native Union Rise Laptop Stand

› **$29.99** (about **£21**) › **FROM** Native Union, nativeunion.com
› **FEATURES** Folding design, fits 13- to 16-inch laptops, 0.12kg

1 **Like a Japanese work of art, Native Union's Rise transforms from flat (it's 2.5mm thick!) to a MacBook stand in seconds, with an origami-style folding centre section that raises your machine.** Made from nylon and glass fibre, the stand weighs next to nothing, and seems flimsy, but in practice it works well. It's not as stable as a solid stand, but definitely more portable.

The only minor downside of the Rise is the fact you have to stick it to the underside of your MacBook, using the stand's built-in adhesive gel – revealed when you peel off the plastic backing. Some might not like the idea of semi-permanently tethering it to a Mac, and the added thickness means it doesn't really play well with a regular solid stand.

› **VERDICT**
⊕ Ultra-portable
⊖ Slightly flimsy
★★★☆☆

Twelve South ParcSlope

› **£49.95** › **FROM** Twelve South, twelvesouth.com
› **FEATURES** Built-in cable tidy, 0.32kg

2 **Twelve South's ParcSlope is the only stand here that doesn't actually fold flat, making it somewhat less travel-friendly.** That said, it still has a fairly low profile, and it's pretty light.

The stand is substantial enough for larger MacBooks (though Twelve South doesn't specify which sizes it works with), and the large upper section offers a solid platform without compromising cooling. Silicone sections top and bottom offer loads of grip, to keep your MacBook in place, while iPad-specific ridges mean you can also securely place an iPad, too.

One neat feature is a cut-out at the rear, which allows you to pull your MacBook's cables through, keeping the surrounding area much neater.

› **VERDICT**
⊕ For MacBooks and iPads
⊖ Doesn't fold flat
★★★★☆

› Image credit: Native Union, Twelve South LLC

MacBooks benefit considerably from being propped up on a stand – not only does it help them run cooler, meaning less chance of fan noise, it also means, in theory, they will deliver better performance.

The other main advantage of a stand is a pretty obvious one: it raises your MacBook to a point at which it's more comfortable to use. A third, and perhaps less crucial, plus point is that a stand makes it easier to type on, too.

If you regularly step away from your main office desk and need to use your MacBook on the move, you'll appreciate a stand that you can take along with you in a backpack or briefcase. That's why we have four of the best travel-friendly stands on test. Let's find out which one truly raises the game... **Nick Odantzis**

Satechi Aluminum Laptop Stand

› **$29.99** (about **£22**) › **FROM** Satechi, satechi.net
› **FEATURES** Folding design, fits 12- to 17-inch laptops, 0.52kg

3 This no-nonsense stand from Satechi comes in silver or space grey to match your Mac, and is made from 5mm thick aluminium. It's solid, though at 0.52kg it's hefty too. Luckily, it folds flat, meaning it won't take up much space.

The flush fold-out stand pivots smoothly from a cutout in the body. Neatly, the stand's hinges are just stiff enough for you to adjust the angle of the stand, and therefore the height of your MacBook. Rubberised grips top and bottom keep your machine in place, and one on the lower edge of the stand prevents slipping when it's rested on a desk.

Satechi says the stand will fit a wide variety of size laptops, and the price tag is also very appealing.

› **VERDICT**
⊕ Portable and solid
⊕ Adjustable height
★★★★★

Rain Design mBar Pro

› **$54.90** (about **£40**) › **FROM** Rain Design, raindesigninc.com
› **FEATURES** Folding design, carry case, 0.13kg

4 There's very little to the Rain Design mBar Pro, which might leave you wondering why its price tag is so high. But the mBar Pro is a very clever stand. Not only is it super-light, its footprint is small when folded down, plus it comes with its own soft microfibre case to prevent it getting scratched in your bag. While it's not as slim as the Native Union Rise, for instance, it's much sturdier when folded out.

The solid aluminium construction is gorgeous, and once you fold out both legs, the mBar Pro offers a resting place for your MacBook that's as good as any here. Rubberised grips keep both machine and stand in place, and the large cutout underneath your Mac should aid cooling.

› **VERDICT**
⊕ Clever design
⊕ Cooling benefit
★★★★☆

› **Image credit:** Satechi, Rain Design Inc

Group test

Reviewed by **HOLLIN JONES**

ON TEST...

- Canon PIXMA TR150
- Canon SELPHY CP1300
- Epson WorkForce WF-110W
- HPRT MT800
- HP OfficeJet 250
- HP Tango X

PORTABLE PRINTERS

We compare the best models for printing on the move

With MacBooks, iPads, and iPhones selling in considerably greater numbers than iMacs and Mac minis, you're now more likely to own a mobile computing device than a desktop one. Printer technology however has traditionally remained largely confined to the home. But a new generation of mobile printer has evolved, designed to be portable, often with battery power, and free to work without a local Wi-Fi network. They also have dedicated iOS apps for printing from an iPhone or iPad, and for device setup and management.

A portable printer can be ideal if you work on the move, whether you're a freelancer or a member of a business. We spend so much of our lives online now, but printing labels, invoices, letters, envelopes, and perhaps photographs are still a requirement for many people. The smaller footprint and flexible power options of most of the models on test means printing out is easy to do wherever you are, and can also be helpful if your home office is particularly compact.

The printers we've tested demonstrate a combination of portability and performance.

How we tested

› Physical and software setup were both considered – the ease of installing cartridges, getting the printer connected to your network and devices, and managing its settings via its onboard controls or an iOS app. Speed of printing in pages per minute was measured, as well as the print quality in colour, and black and white. Battery life was also considered where battery power was a feature, and we took into account the size and weight of the printer, too.

› Image credits (left to right,top to bottom): HP Development Company L.P, Canon

Things to consider...

1 Size and weight
›All these printers are smaller than a typical desktop model, but some are particularly small, albeit with some trade-offs in terms of features.

2 Battery life
›Most of the models on test have the option of battery power for use away from mains power. Some of the batteries are integrated and others are an extra.

3 Connectivity
›Wireless connectivity is standard but there are other options ranging from USB to Bluetooth. Some models also create peer-to-peer wireless connections with no need for a router.

4 Print performance
›Your needs may vary from simple black-and-white through to colour photos, and different models have different strengths.

Canon PIXMA TR150

› £229.99 › FROM Canon, canon.co.uk

1 **Well-built and finished (though still only 2.1kg), the TR150 prints at 4800x1200dpi and supports edge-to-edge printing, which is great for photos where this printer excels.** It can connect to your Mac over USB-C and supports easy joining of your local network or a Wi-Fi Direct connection when no router is available. There's a handy set of onboard buttons plus an OLED screen for setup and management, as well as for printing up to five preset document types.

The battery is an optional extra but will deliver around 330 sheets when using a USB data connection. In general use you'll get a print speed of just under 9ppm in mono and around 5ppm in colour. The power, USB, and lock ports are collected in one corner, which helps keep things tidy, and the Canon Print app makes managing prints from iOS simple. Additional services including printing from Alexa, Siri or Google Assistant are also supported.

› VERDICT
- ⊕ Excellent photo prints
- ⊕ Portable, professional design
- ⊕ Great connectivity
- ⊖ Battery not included as standard

★★★★☆

Canon SELPHY CP1300

› £129.99 › FROM Canon, canon.co.uk

2 **Putting a modern twist on the Polaroid concept, this printer provides hands-on controls, as well as a tilt-up 3.2in colour screen for managing settings.** There's great connectivity with Wi-Fi and Wi-Fi Direct, USB from a computer or camera, USB flash drive, or an SD card. The big, slightly toy-like buttons make it pretty easy to work with and you can select print sizes, borders, and finishes onboard. Using the Canon Print app, you can also send images directly from your iPhone for printing.

You max out at 300x300 dpi and there's a maximum postcard sized print of 148x100mm plus a selection of smaller options. Large prints take around 50 seconds to print and small ones around 30. The battery pack is optional, which is unfortunate as it seems like the ideal photo printer for mobile use, and provides around 72 full size prints on a full charge. Overall, photo printing results are very good, and running costs reasonable.

› VERDICT
- ⊕ Great and fast photo prints
- ⊕ Excellent connectivity
- ⊖ Battery not included
- ⊖ For photos only

★★★★☆

Image credits: Canon

2

3

4

Epson WorkForce WF-110W

› **£199.99** › **FROM** Epson, epson.co.uk

3 **At just 309x159x 61mm and 1.6kg, this printer would easily slip into a bag alongside a laptop or iPad.** Powering from the mains also charges its internal battery, which provides power for 100 monochrome or 50 colour pages, with an optional external battery available. A full recharge takes three hours. Wi-Fi setup is easy thanks to the small LCD screen, and in addition to USB and network printing, it can use Wi-Fi Direct to connect directly to your computer.

macOS downloads the required drivers automatically, and print quality is excellent with a reasonable seven pages monochrome or four pages per minute in colour.

The Epson iPrint app for iOS is well-designed and handles printing easily. Other clever features include a fold-down paper holder that also acts as a cover, and paper size sensors that activate when paper is inserted. It's a great all-round performer for text and photos.

› **VERDICT**

- ⊕ Very compact and lightweight
- ⊕ Internal battery lasts well
- ⊕ Crisp and clear print quality
- ⊕ Great connectivity options

★★★★★

HPRT MT800

› **$239.99** (about **£175**) › **FROM** HPRT, hprt.com

4 **The smallest printer on test by some margin, the MT800 is just 310.5x63.5x39.5mm and 0.78kg in weight.** It has a single USB-C port, which it uses for power, and to charge its 2000mAh battery – with 26 hours of standby time.

Mac drivers need to be installed manually and the printer only works over USB-C with the Mac, not wirelessly even though it does show up as a Bluetooth device. It works fine using Bluetooth on iOS, where the companion app can be used to configure the printer from iPhone or iPad. It's straightforward, although it could benefit from refinement where the translations from Chinese don't quite land.

Feed it a single sheet of A4 at a time and you get monochrome-only prints at just under 15 pages per minute. Printing is done via a thermal transfer ribbon and print quality is good, if not stellar. There are trade-offs here, but it is the most portable model on test.

› **VERDICT**

- ⊕ Tiny footprint and weight
- ⊕ Solid internal battery performance
- ⊖ No wireless on the Mac
- ⊖ Best for text only

★★★☆☆

Image credits: Canon, Epson, XIAMEN HPRT ELECTRONIC TECHNOLOGY CO. LTD.

HP OfficeJet 250

› **£259.99** › **FROM** HP, hp.com

5 **Weighing in at 2.96kg and measuring 380.2x198.3x91.3mm, the HP OfficeJet 250 has a rechargeable internal battery with a large capacity that offers up to 225 pages of printing.** It has one USB 2.0 port for direct printing from devices like flash drives, a USB 2.0 host port for connection to your Mac, as well as Wi-Fi, Wi-Fi Direct and Bluetooth. A copier function enables you to feed in a document and copy it without the need for a full-size scanner tray.

Straddling the desktop and mobile worlds, this is a larger, more fully featured printer that has a colour touchscreen. As such, it's particularly suited to printing high-quality photos while out in the field and away from power. It's slightly faster on AC than on battery, producing 18ppm in black and white and 17ppm in colour at draft quality. HP's iOS app is excellent and allows device management, although much of this functionality is also available on the printer itself.

› **VERDICT**

- ⊕ Great feature set
- ⊕ Excellent print results
- ⊕ Powerful battery
- ⊖ On the larger side of things

★★★★☆

HP Tango X

› **£190** › **FROM** HP, hp.com

6 **At the slightly heavier end of the field, the Tango X weighs 3.4kg and is larger at 389x 246x91mm, though an integrated fabric cover disguises it when not in use.** It's the only model on test with no battery option and neither does it have USB. In fact it's fully wireless, with setup and management performed via the HP Smart app. Wi-Fi Direct is supported for use away from a network. Of all the models here, it's the most slick to use, with many features whizzed through in a couple of taps of the app, which also allows scanning via your iOS device.

It's capable of borderless colour printing at up to 4800x1200 dpi and results are impressive. You get around 10ppm in mono and 7.5ppm in colour, and there are three basic hardware buttons for print, cancel and info commands.

The Smart app is very well put together, and HP offers an Instant Ink subscription service to deliver more ink when you run low.

› **VERDICT**

- ⊕ Slick and powerful app
- ⊕ Solid printing results
- ⊖ Wi-Fi only connectivity
- ⊖ No battery option

★★★★☆

Image credits: HP Development Company L.P.

Mac FORMAT BEST ON TEST

THE WINNER
Epson Workforce WF-110W

The perfect balance of portability and performance, it has everything you need in a take-anywhere mobile printer

Most people who want truly mobile printing will need easy operation away from power or a network, and will probably require better text performance more than high-end photo reproduction. Of course, it's good to have the option to print in colour too. This makes the HPRT MT800 rather limiting, while Canon's Selphy CP1300 is great fun for photos, but not really for text.

The HP Tango X is ultra-modern and a very solid performer but lacks a battery, while HP's larger OfficeJet 250 has a battery but is arguably not as portable as the others. Canon's Pixma TR150 is also a strong contender but loses a little by not having a battery included in the box.

Epson's Workforce WF-110W gets the balance just right. It's supremely portable with an integrated rechargeable battery that has good longevity, plus there are flexible connectivity options and a nicely designed iOS app. The onboard screen and controls make setup and operation easy, and black-and-white print quality is excellent, with colour certainly acceptable.

How do they compare?

Specs	Canon PIXMA TR150	Canon SELPHY CP1300	Epson WorkForce WF-110W	HPRT MT800	HP OfficeJet 250	HP Tango X
Price	£229.99	£129.99	£199.99	$239 (about £175)	£259.99	£199.99
Website	canon.co.uk	canon.co.uk	epson.co.uk	hprt.com	hp.com	hp.com
Battery	Optional, up to 330 pages	Optional, 72 prints	Up to 100 pages	45 pages mono	Up to 225 pages	N/A
PPM B&W	9	N/A	7	15	18	10
PPM Colour	5	1-2	4	N/A	17	7.5
USB	USB-C	USB-A	USB-A	USB-C	USB-A to computer and to flash drive	N/A
Size	322x185x66mm	189x137x64 mm	309x159x61mm	310.5x63.5x39.5 mm	380.2x198.3x91.3mm	389x246x91mm
Weight	2.1kg	0.9kg	1.6kg	0.78kg	2.96kg	3.4kg
Overall	★★★★½	★★★★½	★★★★★	★★½☆☆	★★★★½	★★★★½

Note: The final verdict scores reflect the overall opinion of a product and are not necessarily an average of the criteria listed in the table.

Image credits: Canon, Seiko Epson Corporation, Xiamen HPRT Electronic Technology Co Ltd, HP Development Company LP

Parallels Desktop 17

Run Linux and Windows on your M1 Mac

› **£69.99** (upgrade **£39.99**) › **FROM** Parallels, parallels.com
› **NEEDS** macOS 10.13 or later, 4GB memory

Choice is limited on an M1 – Windows 10 and 11 for ARM, four Linux distros and macOS 12 but not 11

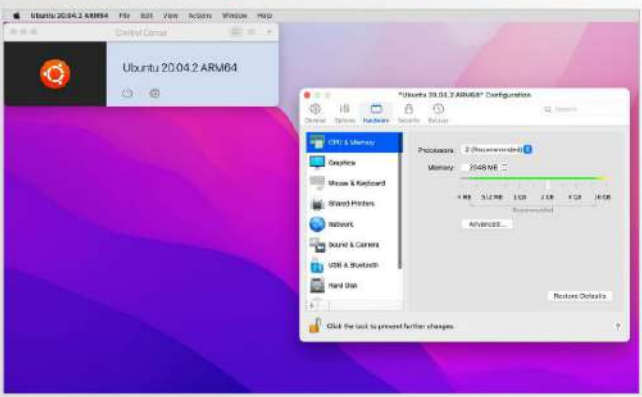
More than a year ago, among the software shown when Apple demonstrated its prototype Apple silicon Macs was an early demo version of Parallels Desktop for the new models. It has since taken 14 months for Parallels to release Desktop 17, the first virtualisation software to make full use of M1 Macs.

Apple silicon has posed serious problems for those wanting to run Windows or older versions of macOS in a virtual machine (VM). As ARM processors in the M1 and later chips aren't compatible with Intel processors, virtualisation software such as Parallels Desktop can't run regular versions of Windows, nor Intel versions of macOS. Engineers have been working to salvage what they can for those who want to virtualise on M1 Macs and their successors; this new version of Parallels Desktop is the first which not only runs special preview versions of Windows and a range of different distros of Linux, but macOS too.

What's supported

Running on a trusty old Intel Mac, version 17 supports any version of macOS from 10.7 to 12, Windows from XP (and earlier) to 11, and almost any Linux distro for Intel processors. Choice is much more limited when running on an M1: Windows 10 and 11 for ARM via Insider Preview, four different distros of Linux for 64-bit ARM processors, and only macOS Monterey, not Big Sur. Try to create a Big Sur VM and you'll see a misleading error message implying that version doesn't support the ARM processor; this appears to be a deep engineering problem between virtualisation and macOS 11. For many potential users, this will be a big disappointment which severely limits the value of virtualising on Apple silicon. Windows also isn't as promising as it might seem, as these aren't yet production releases, and for the moment app support remains limited and largely emulated.

Two M1 performance cores cope comfortably with intense browsing in a window with scaled resolution.



Default allocation of two of the M1's performance cores proves ideal for everyday use.

Virtual TPM

The other hardware hurdle came with the use of Trusted Platform Modules (TPM) with Windows 11. Parallels normally puts Windows into VM mode which removes the requirement for a physical TPM, but can create its own virtual TPM to cater for situations where it's needed. This vTPM can also be transferred to another VM or Mac using the System Keychain, as detailed at kb.parallels.com/en/122702. Those with some newer models of SSD such as Samsung's T7 Touch, which use advanced features of USB 3.1, will appreciate improved support for more recent versions of that standard.

In addition to wrestling with hardware, Parallels' engineers have again been busy improving performance. This year it covers

OpenGL on both architectures, network performance for macOS 11 guests on Intel Macs, and DirectX 11 on the M1. Those are substantial, and Big Sur's faster networking should be readily noticeable. Interface improvements are also worthwhile: drag and drop to and from Windows VMs makes their use even easier, and you can now remap AltGr to the ⌥ key on a Mac keyboard, enabling you to use left-⌥ to enter accented characters and more.

While those testing beta releases of Monterey have been able to run them on Intel Macs with Parallels version 16, you'll need this update for full compatibility with release versions of macOS 12. Support for Monterey VMs on Apple silicon Macs is still immature and fairly basic, lacking full integration, but it's a big step in the right direction for virtualisation on Apple's new models. Parallels 17 brings one valuable feature to help you get the best from the M1 MacBook Pro and Air, as it enables battery support in Windows 10 and 11, which automatically activates native power saving mode when your M1 Mac is running low on battery.

Linux on M1

Setting up a Linux VM on an M1 is simple provided you're happy with its choice of Ubuntu, Fedora, Debian GNU/Linux or Kali. Parallels downloads a ready-made distro, installs it to its own VM, and fires it up ready to configure and use.

Ubuntu is a delight to use. By default, Parallels gives it two of the performance cores, which is sufficient for smooth and responsive scrolling of web pages in Firefox, for instance. That's also sufficient to leave plenty of horsepower for macOS, and its own background tasks like backing up with Time Machine, which mostly use the four efficiency cores, don't bat an eyelid. If you want to do something more demanding in your VM, you can give it more cores and memory, but have to close the VM to do so. There are plenty of neat features such as automatic adjustment of the Linux VM's screen resolution when you resize its window.

If you use the Business Edition for a fleet of Macs, with version 17 you can now create a single package for both Intel and M1 Macs, and use configuration profiles to provide Windows VMs for the whole fleet.

Parallels Desktop 17 is a compelling upgrade for anyone already using an earlier version, particularly on an M1 Mac. For anyone wanting to virtualise on an M1, though, it's marred by its inability to support Big Sur as a guest. This leaves you with only one option if you want to keep macOS 11 running after you've upgraded an M1 Mac to Monterey: to install both as separate bootable systems, which isn't good. **Howard Oakley**

Ubuntu is one of four supported Linux distros, and integrates well with access to iCloud Drive.

Mac FORMAT VERDICT

› Still the most accessible virtualiser, and now the most capable, it should grow more useful.

★★★★☆

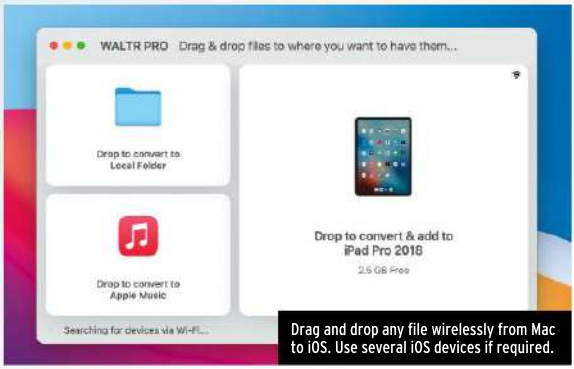
- ⊕ Monterey and Windows 11 compatible
- ⊕ Performance close to host
- ⊕ Runs on M1 Macs
- ⊖ M1 Macs can't run Big Sur in a VM

› Image credit: Parallels International GmbH

WALTR PRO

Convert and copy any file from Mac to iOS

› One-year licence **$29.95** (about **£21.84**)/ Lifetime licence **$59.95** (about **£43.72**)
› **FROM** softorino.com › **NEEDS** macOS 10.13 or later

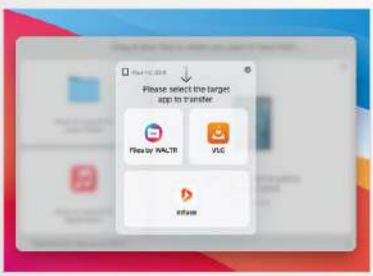

WALTR PRO Drag & drop files to where you want to have them...
Drop to convert to Local Folder
Drop to convert to Apple Music
Drop to convert & add to iPad Pro 2018
2.5 GB Free
Searching for devices via Wi-Fi...
Drag and drop any file wirelessly from Mac to iOS. Use several iOS devices if required.

It's easy to use, and ideal for storing content locally rather than being reliant on the cloud

Transferring media between your Mac and an iOS device is still something of a chore, despite Apple's Files app making life somewhat easier. Apple restricts the types of media file formats and codecs that its operating systems will play back natively, and there are plenty of video and audio files out there that don't meet its criteria. WALTR PRO aims to remedy this by simplifying the process of converting and copying files between macOS and iOS.

Begin the process by booting the Mac app, then connect your iOS device to your Mac once via USB. Once that connection has been made it will be remembered and transfers can happen wirelessly. Multiple devices are supported, and when you drag and drop a file onto the iOS device, you can hold the ⌥ key to choose which app to send it to.

Any installed app capable of reading the file will appear, meaning Kindle for ebooks, VLC for movies and so on. If required, WALTR converts a file into a more iOS-friendly format before sending it. There's also automatic metadata-fetching for videos, and you can manually edit this before transfer. By default, movie and music files are converted and sent to the Music and TV apps on your iOS device.



Choose a compatible app to transfer a file into. WALTR will then convert video and audio if necessary.

Sharing and converting

The free WALTR for iOS app acts as a repository for your files in case you just want to store them. It can't open files, but can be used to send them to compatible apps. It also adds a share sheet to iOS, which is useful in Messages, as you can directly attach any file in the app to a message. As you might expect, this is better suited to smaller files.

The Mac app has a couple of other tools, the first of which is a file converter that takes a file you drop onto it and converts it to a macOS or iOS-friendly format, which is stored locally on your Mac. It's a converter for more esoteric video and audio files, such as AVIs, FLACs or MKVs, which might otherwise require the use of the VLC app, for instance, to open them. Then there's an Apple Music converter that encodes any audio files into Apple's .m4a format, and transfers them straight to your Mac's Music app and from there to the Cloud if you use iTunes Match.

WALTR PRO essentially takes a multi-step process of conversion, connection and copying of files, and streamlines it without you having to understand formats or file systems. Future updates will include default sending of files to the WALTR iOS app when you don't have an installed app that can play them back, which will make workflow a little clearer. Overall though, it's easy to use, and ideal if you want to store content locally rather than being reliant on the cloud and the upload speed issues that invariably arise when dealing with larger files like movies.

Hollin Jones

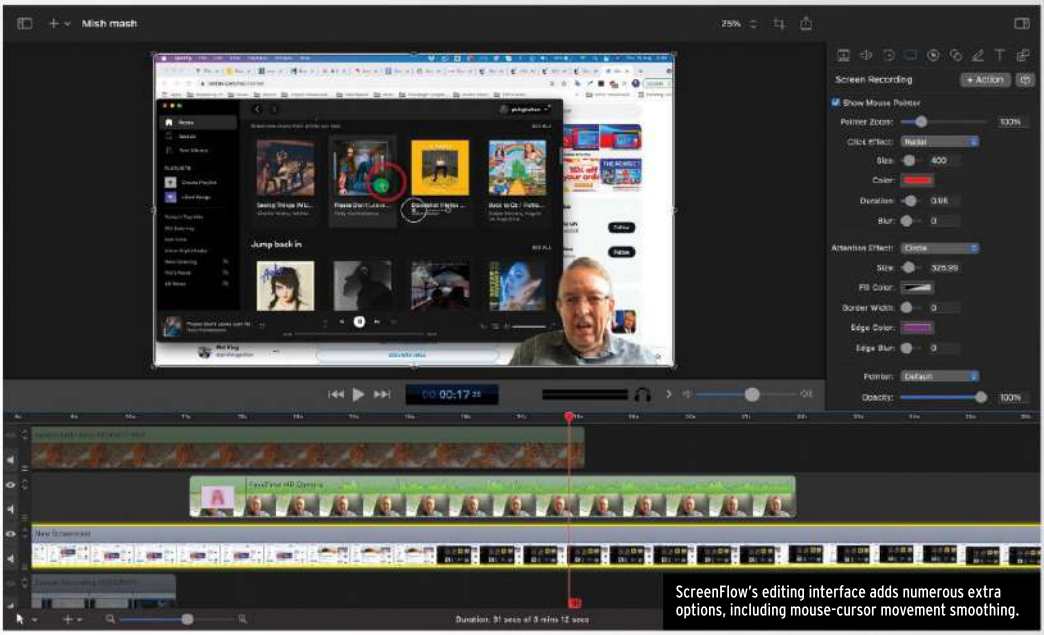
Mac FORMAT VERDICT

› A hassle-free way to get any file from Mac to iOS.

★★★★☆

⊕ Automatic conversion
⊕ Easy Wi-Fi transfer
⊕ Metadata fetching
⊖ iOS app is fairly basic at present

› Image credit: Softorino Inc



ScreenFlow's editing interface adds numerous extra options, including mouse-cursor movement smoothing.

ScreenFlow 10

Record screens and video with flair

› **$149** (about **£109**) › **FROM** Telestream, telestream.net › **NEEDS** macOS 10.15 or later

With its advanced feature set and easy-to-use editing interface, ScreenFlow has long been the go-to app for anyone wanting to create slick screencasts. And this major update – the first since November 2019 – adds some key new features.

While ScreenFlow 9 introduced simultaneous multi-screen recording, 10 adds simultaneous recording of multiple cameras and microphones. This makes it a whole lot easier to record video using a multi-camera setup, knowing that everything will be synced up automatically in the editor. Just connect as many cameras and devices as you need and select them in the screen-recording menu.

As before, you can connect iOS devices and record their screens. While there's no option to use a device's direct camera feed, you can use an app such as Full Screen Camera to record the screen with a clean live camera view.

Under the hood, there are significant reductions in file size and CPU usage: compared to ScreenFlow 9, camera recordings are up to 250% smaller (while maintaining the same quality) and there's up to 75% less CPU usage during recording.

A very welcome new feature is the ability to record independent audio from multiple Mac apps at the same time. This means you can adjust sound levels or mute them in the editor – handy for eliminating any annoying notification alerts that come through while recording, for instance. In addition, you can now use ScreenFlow as an output device for a digital audio workstation (DAW).

Improved editing

When it comes to editing your recordings, an improved interface makes for a streamlined workflow. Of particular note is the addition of a decent selection of animated lower-third and title-card graphics, whose fonts and colours can be customised.

A redesigned video filters interface includes an automatic background removal filter alongside the chroma-key option, so you don't need a green screen. It works surprisingly well, although best with a less busy backdrop.

With many more additions and tweaks, ScreenFlow 10 has everything you need to make professional-looking screencasts and video recordings. **Phil King**

Mac FORMAT VERDICT

› New features consolidate its position as the number-one screencast-recording app.

★★★★★

- Multi-camera and screen recording
- Individual app audio
- Cool video filters and effects
- Easy-to-use editing interface

› Image credit: Telestream LLC

Stellar Commanders

Kill a planet in under seven minutes

- **£4.99**/month (Apple Arcade)
- **FROM** Blindflug, stellarcommanders.com
- **NEEDS** macOS 10.15 or later

Battles are short, fast-paced, and played in real time – you'll need your head screwed on to win.

In small doses Stellar Commanders provides you with a fistful of frantic fun

Stellar Commanders involves fast-paced planetary battles where you must destroy your enemy's domain before you lose your own. Each planet is divided into territories – and those you control can house defensive batteries or missile silos, while you expand into unoccupied tiles. Don't take too long though; games last a maximum of seven minutes, at which point the planet disintegrates and whoever controls the most territory is deemed the winner.

A range of different units add a decent degree of strategy. Should you go aggressive and focus solely on missiles, or rapidly expand and try to smother your opponent? You can choose which units make it into the deck of cards that you play during a battle, but you can only choose from four at a time. If the unit you want is not in your current hand, you have to place other units and hope it appears soon. That undercuts the grand strategy aspect when your plans are stymied this way.

When it comes to interstellar factions, there are basically three flavours you can choose from, each with their own units and weapons. Every faction comes with similar units, but there are some unique weapons that allow for tactical gameplay.

There are various paths to victory, giving you room to try different strategies.

Appetite for destruction

The game's main strength is its high-speed gameplay. You have a couple of minutes at the start to place units, a handful of minutes afterwards to fight, and then the game is over. Instead of taking turns, everything happens in real time. You'll find yourself rapidly rotating the globe to place missiles and troops, feverishly trying to put every second to good use while wishing the cooldowns were just a little shorter. It's best suited to short engagements rather than prolonged sessions, but in small doses it provides you with a fistful of frantic fun.

The new Friend & Foe update adds new units and the ability to invite your friends, and it now works on Apple silicon Macs (which is what we reviewed it on). There is also a new single-player campaign where each faction has a different story, and there are challenges along the way that change the match rules. Unfortunately, you can only do one battle per day in this mode. There are seven days of campaign content for each faction, and you can't do two campaigns simultaneously. Removing the daily limit would be a welcome change, particularly for players who want to properly immerse themselves.

We also wish the cards provided tooltips with stats, so you knew what they did in a little more detail. With only pitched battles, matches are a little repetitive, and the game needs more scenarios and variety. If you have a few minutes (and planets) to kill, though, it provides an enjoyable burst of planetary destruction. **Alex Blake**

Mac FORMAT VERDICT

Stellar Commanders excels at short, frenzied battles, but it could do with more varied content.

★★★★☆

- ⊕ Short, exciting games
- ⊕ Several ways to win
- ⊖ Needs more scenarios
- ⊖ Cards should have tooltips

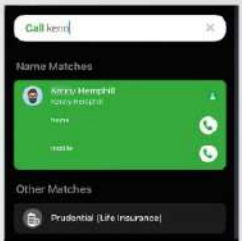
Image credit: Blindflug

Cardhop 2

Back with more for power users

› **Free** (Premium from **£4.99**/month)
› **FROM** Flexibits, flexibits.com › **NEEDS** iOS 14.1 or later

Cardhop 2 has Home Screen widgets for upcoming birthdays.



Start typing a name to see a list of matching contacts.

Cardhop, the contacts manager for iOS and macOS, showed lots of promise when we reviewed it a couple of years ago. Now, with version 2, much of that has been realised.

New features include viewing family trees or organisational chart relationships from Office 365 or Google. However, the most significant change to Cardhop is it is now more integrated with Flexibits' other app, Fantastical. You can now invite contacts or groups to new events that you create in Fantastical. And instead of a one-off purchase price, the premium features in Cardhop are now part of the Flexibits subscription (both individual and family versions).

This version also adds Home Screen widgets for use in Notification Centre, and there's also a business card scanner that enables you to take photos of a business card, from which Cardhop will create a contact.

Cardhop is built on the ability to understand natural language commands. So, for instance, type 'message Kenny lunch on Tuesday?' and it will suggest contacts for you to select, then open a message in your preferred messaging app with the text, 'lunch on Tuesday?' ready to send. There are plenty of other actions available with this excellent upgrade too.

Kenny Hemphill

Mac FORMAT VERDICT

› The integration with Fantastical is great. For anyone who doesn't use the latter, the fee may feel steep.

★★★★☆

⊕ Home Screen widgets
⊖ Could be expensive if you don't use Fantastical

Infuse 7

Easy network streaming for movies

› **Free** (IAPs) › **FROM** Firecore, firecore.com
› **NEEDS** iOS/iPadOS 13 or later

Point the app at a folder of movies to download cover art.

Cloud and local network services are supported for direct streaming.

Apple's push into the streaming market means it's unlikely to advance its local video-playback tools, leaving the QuickTime Player as its only native application. There are third-party solutions, such as VLC, which can use any video file, but aren't refined – and then there's Infuse.

With apps for iOS, Mac and Apple TV, Infuse takes the hassle out of movie playback and library management. The standard version includes support for 4K HDR video in H.264 and H.265 formats, video upscaling, drag and drop of files via AirDrop, FTP and more, plus UPnP and DNLA for streaming from local NAS or other wirelessly connected hard drives. You can copy files to your device but it's more efficient to add networked drives to store movies and stream from.

The interface is slick, with the app using metadata and cover art for easy browsing, plus you can create playlists.

The Pro version (£0.79/month) offers full support for a range of formats, which covers everything you could need to play. It also unlocks an array of cloud streaming options. Then there's functionality on macOS and tvOS as well – excellent value. And, unlike Plex, Infuse doesn't require your Mac to be on, any device can work independently. It's a great way to watch videos.

Hollin Jones

Mac FORMAT VERDICT

› A superbly efficient way to watch movies and TV shows.

★★★★★

⊕ Excellent cloud storage support
⊕ Play any video without conversion

› Image credits: Flexibits Inc, Firecore LLC

STORE GUIDE

EDITED BY **ROB MEAD-GREEN**

Your complete guide to the best Apple hardware and third-party accessories

EXPECTED AUG 2022
UPDATED APR 2021

iMac

From £1,249

Ever since the Bondi Blue iMac debuted in 1998, Apple's all-in-one desktop computer has been setting standards in gorgeous design and powerful performance. And Apple's April 2021 Spring Loaded event delivered the new, colourful 24in iMac, available in green, yellow, orange, pink, purple, blue, and silver. The larger screen has also been bumped up to a 4.5K Retina display with a 4480x2520 resolution.

Inside, Apple's own M1 chip combines with macOS Big Sur, and Apple promises up to 85% faster CPU performance and up to two times faster graphics performance than the 21.5-inch iMac models. All the models come with 8GB of unified memory (upgradeable to 16GB). The eight-core CPU/seven-core GPU option comes with a 256GB SSD (configurable to 512GB or 1TB). The eight-core CPU/eight-core GPU versions come with either a 256GB or 512GB SSD and can be upgraded to 1TB or 2TB.

The new iMacs all feature a 1080p FaceTime camera, a high-fidelity six-speaker system, a studio-quality three-mic array and support for spatial audio. You'll also find two Thunderbolt/USB 4 ports on each model, with middle- and high-end options gaining two additional USB-C ports. Thunderbolt 2, HDMI, DVI and VGA are supported using adaptors.) All come with a Magic Keyboard, with the mid- and high-end versions boasting Touch ID. Prices start at £1,249.

The 27in iMac, last updated mid 2020, sports SSDs across the line and you can choose from six-core tenth-gen Intel Core i5s on the entry level models, or an eight-core tenth-gen Intel Core i7. The 27in iMacs also boast AMD Radeon Pro 5300 graphics on the entry and mid-range models, and an AMD Radeon Pro 5550 XT GPU on the £2,999 model. All three models have 5K Retina displays with True Tone. You can add up to 128GB of memory and up to 8TB of solid-state storage.

The 24in iMac released in April brought with it a return of colour to the Apple spectrum.

Choose an iMac

	MODEL	KEY SPECIFICATIONS	PRICE
ENTRY LEVEL	24in, M1	**MEMORY** 8GB of unifed memory **GRAPHICS** Seven-core GPU **STORAGE** 256GB SSD **DISPLAY** Retina 4.5K (P3 gamut) **ALSO** Magic Mouse, Magic Keyboard	£1,249
UPGRADER	24in, M1	**MEMORY** 16GB of unifed memory **GRAPHICS** Eight-core GPU **STORAGE** 512GB SSD **DISPLAY** Retina 4.5K (P3 gamut) **ALSO** Magic Mouse with Touch ID, Magic Keyboard	£1,649
HIGH END	27in 3.8GHz eight-core Intel Core i7	**MEMORY** 8GB of 2,666MHz DDR4 **GRAPHICS** AMD Radeon Pro 5500 XT **STORAGE** 512GB SSD **DISPLAY** Retina 5K (IPS, P3 gamut) **ALSO** Magic Mouse, Magic Keyboard	£2,299

R = Retina display

EXPECTED OCT 2021
UPDATED NOV 2020

The MacBook Pro 13-inch (Late 2020) features Apple's own silicon 5nm M1 chip.

MacBook Pro

From £1,299

In November 2020, Apple rather surprised the tech world with an earlier-than-expected release of the first MacBook Pro with its own custom designed 5nm Apple M1 chip.

The eight-core CPU is said to offer 2.8 times faster performance over its predecessor, while the eight-core GPU has five times faster graphics. The 16-core Neural Engine completes the powerhouse spec sheet for advanced machine learning. All this, coupled with a 61W battery, translates to the longest battery life for a MacBook Pro so far, with an impressive 17 hours of web browsing and 20 hours of video play. The Pro comes with 8GB of unified memory but you can upgrade to 16GB. Storage starts at 256GB SSD, and can be configured up to 2TB.

The physical build remains the same as the May 2020 model (1.56x30.41x21.24cm), and still features the Magic Keyboard, Touch Bar, Touch ID and Force Touch trackpad. There are now two Thunderbolt/USB 4 ports. As well as Bluetooth 5.0, the 13in Pro now supports 802.11ax Wi-Fi.

13-inch model pricing starts at £1,299; while upping the unified memory to 16GB and opting for the top SSD storage of 2TB takes the price to £2,299.

So far, only the 13-inch model has been updated to the M1 chip, but the 16-inch is obviously due to follow. The 13-inch 2.0GHz Intel Core i5 Quad Core model with Intel Iris Plus Graphics, starting at £1,799, is still available. As are the 16-inch ninth-gen Intel Core models, which start at £2,399.

Choose a MacBook Pro

	MODEL	KEY SPECIFICATIONS	PRICE
ENTRY LEVEL	13in, M1 8-core CPU, 8-core GPU	**MEMORY** 8GB of unified memory **STORAGE** 256GB SSD **TOUCH BAR** Yes **TOUCH ID** Yes	£1,299
UPGRADER	13in, M1 8-core CPU, 8-core GPU	**MEMORY** 16GB of unified memory **STORAGE** 512GB SSD **TOUCH BAR** Yes **TOUCH ID** Yes	£1,699
HIGH END	16in 2.4GHz 8-core Intel Core i9	**MEMORY** 64GB of 2,666MHz DDR4 **GPU** AMD Radeon Pro 5500 4GB **STORAGE** 1TB SSD **TOUCH BAR** Yes **TOUCH ID** Yes	£3,799

EXPECTED DEC 2021

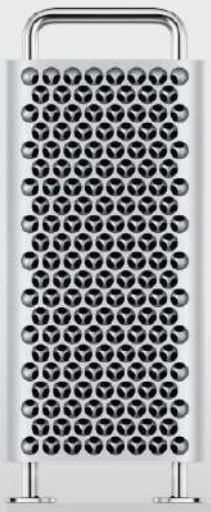
Mac Pro

From £5,499

Aimed at creative pros, Apple's high-end desktop has always been designed to deliver as much power and flexibility as possible.

Ironically, the previous 'trash can' Mac Pro proved to be a design dead-end, and so Apple came up with this: a stainless steel and aluminium tower that's almost infinitely configurable – you can even add wheels if you want to.

If the price at the top makes you wince, that's just the start – prices rise incredibly steeply once you get beyond the standard spec, and even those wheels will cost you £400, while adding six 128GB DDR4 EEC memory cards costs £14,000. Given that you can fit everything from a 28-core Intel Xeon W processor to 8TB of SSD storage that's hardly a surprise, though.



The new Mac Pro has been designed to be as configurable as possible.

The M1-equipped MacBook Air (Late 2020) is an incredible portable performer.

MacBook Air

From £999

Apple's thinnest, lightest laptop now also gets the M1 treatment. But without a price hike! Prices still start at just £999. The next step model (with increased SSD storage and eight-core GPU) even costs £50 less at £1,249. Like the MBP, Apple's own unified memory silicon enables faster performance and better graphic speeds. And the 16-core Neural Engine results in nine times faster machine learning.

It may be Apple's most affordable laptop, but the MacBook Air certainly doesn't feel like a budget machine, thanks to its 100% recycled aluminium unibody, and 13.3-inch LED-backlit Retina display, which has a resolution of 2560x1600 (227ppi) and True Tone, which automatically adjusts the display's colour temperature depending on the ambient light.

The inclusion of the M1 chip has changed none of the Air's physical characteristics – the portable laptop is still just 1.61cm thin, and weighs 1.29kg. Despite the performance boost, the Air is now fanless, using an aluminium heat dissipating panel instead – which also means that it runs in complete silence.

The base model comes with an eight-core CPU, but a seven-core GPU, and 256GB SSD storage. While on the step-up model, the CPU and GPU are both eight-core, and the storage starts at 512GB. Both offer the option to upgrade to 16GB memory, and are configurable with increased storage; you can add up to 2TB of SSD storage for £800 on the base model or £600 on the eight-core GPU model.

The M1 MacBook Air can be teamed with Apple's Pro Display XDR, although none of the M1 Macs can be used with an external GPU (eGPU). You also get Touch ID for secure logins, and a Force Touch trackpad.

The MacBook Air is also equipped with two Thunderbolt/USB 4 ports and a headphone socket. The laptop now supports 802.11ax Wi-Fi (aka Wi-Fi 6), has Bluetooth 5.0 onboard, and is equipped with a 720p FaceTime camera for video chats.

So with the new internal upgrades, does the MacBook Air still boast its legendarily long battery life? Yes, and some! You can now get up to 18 hours of Apple TV app movie playback, or 15 hours of wireless web surfing, thanks to its 49.9W battery. Like the earlier 2020 incarnation, the new MacBook Air comes with Apple's Magic Keyboard for fast, fluid typing.

Choose a MacBook Air

	MODEL	KEY SPECIFICATIONS	PRICE
ENTRY LEVEL	13in, M1 8-core CPU, 7-core GPU	**MEMORY** 8GB of unified memory **STORAGE** 256GB SSD **TOUCH BAR** No **TOUCH ID** Yes	£999
UPGRADER	13in, M1 8-core CPU, 8-core GPU	**MEMORY** 16 GB of unified memory **STORAGE** 2TB SSD **TOUCH BAR** No **TOUCH ID** Yes	£2,049

Mac mini

From £699

Despite a near two-year wait for the last update to the Mac mini, within just eight months, Apple released it again in November 2020 with the homegrown M1 chip.

The processor boasts far superior processing and graphics performance to the Intel innards of the previous incarnation. Like the MacBook Pro and MacBook Air, the base model starts with 8GB of memory that can be boosted to 16GB. The SSD options go from 256GB all the way up to 2TB.

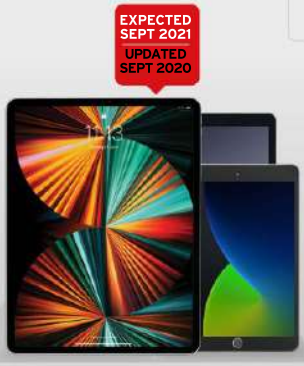
The Mac mini now supports Wi-Fi 6 and Bluetooth 5.0. You get two Thunderbolt/USB 4 ports, as well as two USB-A ports, an HDMI 2.0 port and a 3.5mm headphone jack.

The entry level Mac mini is available for £699. Taking it to its max memory and SSD capacity will set you back £1,699. The 3.0GHz Intel Core i5 model is still available from £1,099.

Apple TV 4K

From £169

Apple's media streamer has been around since 2007, and in April 2021 Apple unveiled the sixth generation. Running an A12 Bionic chip and its own OS (tvOS), the latest model offers 4K high frame rate HDR. You get Apple TV+, as well as access to third-party content using apps such as BBC iPlayer. You can also use it to play Apple Arcade games, run Apple Fitness+ content, stream photos and your music library, and more. The Siri Remote has been redesigned with an improved touch-enabled clickpad.



iPhone

From £699

In October 2020, Apple launched the iPhone 12 family of handsets. The Pro features Apple's A14 Bionic chip, with either a 6.1-inch or 6.7-inch (Max version) Super Retina XDR all-screen OLED True Tone display, and comes in 128, 256 or 512GB storage options. The 12MP camera system incorporates Ultra Wide, Wide and Telephoto lenses with Portrait mode, plus HDR video with Dolby Vision.

The iPhone 12 and iPhone 12 mini have the same A14 Bionic processor as their pricier sibling, but come in 64, 128 and 256GB storage options. Both boast the Super Retina XDR True Tone display. The standard screen size is 6.1-inch, while the mini is 5.4-inch. These phones feature 12MP Wide and Ultra Wide cameras, but can also record HDR video with Dolby Vision. All the new iPhone 12 models connect to 5G, and feature Face ID, Apple's U1 chip and Haptic Touch.

iPad

From £329

In September 2020, Apple brought out the eighth-gen iPad featuring a new six-core A12 Bionic chip. The processor update allows for a Neural Engine to support image processing and Augmented Reality experiences. Built for iPadOS, the iPad is great at multitasking. You can slide a second app over the right side of the one you're working on. Picture in Picture enables you to watch video in a corner of the screen. There's also Split View, which lets you work on two apps side by side. iPad also supports external drives and, since the iOS 14.5 update, Xbox Series X and PlayStation 5 DualSense controllers for more immersive gaming.

The iPad comes in Gold, Silver and Space Grey with 32GB or 128GB options. At 490g, it is light yet the recycled aluminium enclosure is one of the most durable built by Apple.

Choose an iPhone

	MODEL	KEY SPECIFICATIONS	PRICE
ENTRY LEVEL	iPhone 12 mini (5.4in Super Retina XDR)	**CAPACITY:** 64GB **PROCESSOR:** A14 Bionic **FACE ID** Yes **CAMERA** 12MP photos (dual lens), HDR video	£699
UPGRADER	iPhone 12 (6.1in Super Retina XDR)	**CAPACITY:** 128GB **PROCESSOR:** A14 Bionic **FACE ID** Yes **CAMERA** 12MP photos (dual lens), HDR video	£849
HIGH END	iPhone 12 Pro Max (6.7in Super Retina XDR)	**CAPACITY:** 512GB **PROCESSOR:** A14 Bionic **FACE ID** Yes **CAMERA** 12MP photos (triple lens), 4K video	£1,399

Choose an iPad

	MODEL	KEY SPECIFICATIONS	PRICE
ENTRY LEVEL	10.2in iPad	**CAPACITY** 32GB **PROCESSOR** A12 Bionic **CONNECTIVITY** Wi-Fi **CAMERA** 8MP **UNLOCKING** Touch ID	£329
UPGRADER	10.9in iPad Air	**CAPACITY** 64GB **PROCESSOR** A14 Bionic **CONNECTIVITY** Wi-Fi **CAMERA** 12MP **UNLOCKING** Touch ID	£579
HIGH END	12.9in iPad Pro	**CAPACITY** 128GB **PROCESSOR** M1 **CONNECTIVITY** Wi-Fi **CAMERA** 12MP **UNLOCKING** Face ID	£999

iPad Air

From £579

There are changes aplenty for the iPad Air. The larger 10.9-inch Liquid Retina display also boasts slimmer bezels. You now get an A14 Bionic chip with Neural Engine for 40% faster performance. The device still uses Touch ID but has replaced the Lightning connector with USB-C. The device is compatible with the second-gen Apple Pencil and the Magic Keyboard with trackpad.

Watch

From £379 (Series 6)

The world's number one smartwatch now boasts an always-on Retina display.

Along with the two size options (40 and 44mm), the Watch is available in aluminium, stainless steel and titanium. The ceramic option has now been discontinued. Along with the W3 and U1 chips, the 64-bit S6 dual-core processor promises to make the watch 20% faster than Series 5, while retaining the same 18-hour battery life.

Series 6 now boasts a blood oxygen sensor and makes the most of the new watchOS 7 features, such as Family Sharing, improved sleep and fitness tracking, and more customisable faces.

AirPods Max

From £549

Apple's rather expensive over-ear headphones are finally here. The aluminium cups rotate independently, the knitted mesh headband helps reduce on-head pressure, and the Digital Crown helps you to control your audio with ease. More importantly, the high-fidelity audio performance is exceptional, and the H1 chip uses computational audio to assist ANC and Transparency mode. In addition, spatial audio with dynamic head tracking ensures that the headphones deliver an immersive experience.

BEST BUYS... Curated picks of third-party kit

› DESKTOP SPEAKER

Ruark MR1

£329.99 ruarkaudio.com

›Winner of *MF357*'s head to head, the MR1 speaker set looks and sounds the business. The dome tweeter and long-throw woofer can handle a variety of audio styles with aplomb. You get a good variety of connectivity options, and we love the chunky function/volume dial too.

› QHD DISPLAY

ViewSonic VP2768a ColorPro

£379 viewsonic.com

›If you're looking for a screen for creative colour work, the 100% sRGB VP2768a ColorPro should be a definite contender. The frameless 27in 2K QHD display offers a 2560x1440 resolution, and a 14-bit 3D lookup table that generates 4.39 trillion colours. In terms of connectivity, there's an integrated gigabit Ethernet port, USB-C, USB3.2 Gen 1, HDMI, and a DisplayPort.

› PORTABLE SPEAKER

Sonos Roam

£159 sonos.com

›According to Sonos, this is its smartest speaker yet. You get Bluetooth and Wi-Fi connectivity, and Alexa and Google Assistant AI. The lightweight but rugged speaker's extensive feature list includes Sound Swap, throwing sound to the nearest Sonos speaker, and Auto TruePlay, where it automatically tunes itself to the environment. It also sounds great!

› IN-EAR WIRLESS EARPHONES

Sony WF-1000XM4

£250 sony.co.uk

›The WF-1000XM4 are slightly smaller than their predecessor and the case is 40% smaller – and more eco-friendly. The true wireless earbuds have a good audio ability, support voice-assistant control and the Headphones Connect app provides lots of customisation and ease of use. As well as LDAC, the WF-1000XM4 are compatible with SBC and AAC codecs.

NEW! › PRINTER

Epson Workforce WF-110W

£199.99 epson.co.uk

›Epson's Workforce WF-110W is supremely portable with an integrated rechargeable battery that has good longevity, plus there are flexible connectivity options and a nicely designed iOS app. The onboard screen and controls make setup and operation easy, and black-and-white print quality is excellent, with colour certainly acceptable.

› EXTERNAL SSD

OWC Envoy Pro FX SSD

£365.99 (1TB) owcdigital.com

›Don't let the size of this neat little SSD fool you – it's both tough and efficient. Not only is it dust- and waterproof (IP67), and drop tested to military standards, it boasts blisteringly fast read and write speeds, and the supplied cable is capable of transferring data at 5,000MB/sec over Thunderbolt. Storage capacities range from 240GB to 2TB.

› KEYBOARD (MAC/iOS)

Logitech MX Keys For Mac

£99.99 logitech.com

›If you spend a lot of time at your desk, you'll know how imperative the right keyboard is. The MX Keys is full size with spherically dished, smooth-touch keys. The keyboard can pair with up to three Mac or iOS devices, and you can switch between them without having to re-pair. Battery life is good and the backlight is cleverly triggered by a proximity sensor.

› WI-FI ROUTER

Zyxel Multy U WSR30

£199 zyxel.com/uk

›Zyxel's Multy U mesh router hits the sweet spot, offering great performance at a competitive price, making it ideal for homes and small offices. The AC2100 router offers up to 280Mbps with a range of 6,000sq ft, and the nodes are easy on the eye, too. The companion app comes with helpful speed tests and diagnostic tools, as well as parental controls.

› MACBOOK BAG

Hex Technical backpack

$149.95 (about £110) hexbrand.com

›Looking for a bag that hits the sweet spot for generous storage and stylish looks? Look no further. The Hex Technical's 17.5-litre capacity is made up of device-hugging padded pockets for a MacBook (up to 16in), iPad, power bank and more. The bag is waterproof and has a 1680D Cordura ballistic bottom so it's also reassuringly rugged.

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BEST BUYS... Curated picks of additional apps

› PHOTO EDITOR (MAC)

Luminar AI

From £59 skylum.com

›If you want to improve your photos without spending too much, this is the app for you. If you're worried that you don't have the know-how for technical image edits, this is also the app for you! The software uses artificial intelligence (AI) to analyse your photos with templates for various categories, instantly enhancing your shot. And, once the AI has worked its magic, you can make your own easy tweaks.

› TO-DO (MAC/iOS)

Todoist

From Free todoist.com

›Task management apps should be clear and simple but with features on hand for you to be as productive as possible. Todoist provides that platform, and the Premium £3.99 tier in particular gets our vote. The interface is very easy to navigate and the comprehensive toolset is accessible without being overwhelming. The price includes both Mac and iOS apps, file uploads, and collaborative tools.

› PHOTO EDITOR (iOS)

Pixelmator

£4.99 pixelmator.com

›Pixelmator is a fully-fledged layer-based photo editor, graphic design and painting app. It offers over 100 brushes, dozens of tools and 32 blending modes giving you full control, all for a really affordable price. The app works with iCloud to sync all your projects across devices including Mac. It also supports formats like PSD, PNG and JPEG, making it the best app for all your graphic needs.

› TEXT RECOGNITION (MAC)

TextSniper

£6.99 textsniper.app

›Not only can TextSniper extract and recognise text from anything you see on your Mac's screen, it can do so very quickly. The app can handle just about any type of copy – be it a screenshot, PDF, scanned photo document, and so on. It's easy to use, works almost instantly, and we're really impressed with its accuracy. If you need a decent text recognition app, try this excellent affordable option.

› DISK UTILITY (MAC)

Carbon Copy Cloner 6

£29.45 bombich.com

›If you're finding Time Machine backups somewhat inflexible, look no further than CCC for your replacement. Carbon Copy Cloner 6's comprehensive feature set includes flexible backups, disk cloning and snapshot management. A help book is on hand which also links to the company's online Knowledge Base, so you're always assured of access to technical and specialist advice.

› CALENDAR & TASKS (MAC/iOS)

Fantastical 3

From £3.25 per month

flexibits.com

›If your calendar and reminders are getting out of control, Fantastical can sort things out. It has support for natural language entry, so you can enter events and reminders as you would say them. It's got a nifty menu bar shortcut, plus a great interface, clever calendar management and a powerful iOS app. Its predecessor won *MF338*'s group test.

› NOTE-TAKING (iOS)

Notability 10

£8.99 gingerlabs.com

›Notability is a very flexible note-taking app. It can combine different mediums, such as illustrations, handwriting and audio recordings, and import PDFs and scan documents. Version 10 also brings an in-house Shop for purchasing additional stickers, themes and features, such as handwriting conversion. The app works well with Apple Pencil and supports a range of cloud-based services.

› SCANNER/OCR (iOS)

Genius Scan+

£7.99 thegrizzlylabs.com

›Genius Scan uses your iOS device's camera and processing power to deliver comprehensive scanning and text-recognition capabilities. The free app (Genius Scan 6.0) provides document detection, background removal, distortion correction, as well as the ability to export to PDF and create multi-page PDFs, but the £7.99 Genius Scan+ (available as an IAP) introduces a superb OCR engine.

› EMAIL MANAGER (MAC/iOS)

Spark

Free sparkmailapp.com

›Feeling inbox anxiety? The solution could be Spark, our favourite iPhone email app after winning *MF340*'s group test. Its 'smart inbox' prioritises emails based on perceived importance – no more vital messages getting lost in a sea of spam. You can snooze messages to be reminded about them later, and search your mailboxes using natural language. And to top it all off, it's free.

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RANDOM APPLE MEMORY

Apple IIGS

Charlotte Henry reflects on the Apple IIGS, the computer that brought new levels of sound and colour to Apple desktops

The Apple IIGS, released in September 1986, was the final model of the Apple II range. It was a groundbreaking machine in several ways. Most notably, it was the first Apple computer with a colour Graphical User Interface (GUI). There was also the availability of Super-High Resolution graphics mode. This made possible a greater number of colour choices than both the high-resolution and double high-resolution modes of previous models.

Its sound also had a massive upgrade, powered by an Ensoniq 5503 Digital Oscillator Chip (DOC). This allowed up to 32 voices – Apple paired them to create 16 richer sounding voices, taking it well beyond the arcade-like sounds expected of computers in the mid-1980s.

So significant were these upgrades that the device was named after them – the GS in the title stands for Graphics and Sound. In this particular focus on sound and graphics capabilities one can see much of what we associate with Apple today – an appeal to creatives and music fans of all kinds. The Apple IIGS also came with the Apple Desktop Bus interface which connected the keyboard, mouse, and other input devices. It contained a 16-bit, 2.8MHz 65C816 microprocessor, 256KB or 1MB of memory (which could be expanded up to 8MB) and supported 5.25-inch and 3.5-inch floppy disks. The seven general-purpose expansion slots were compatible with those on earlier models in the range – the original Apple II, II+, and IIe. The microcomputer started at $999.

The Apple IIGS unveiling also marked 10 years of the company and, to celebrate, the first 10,000 were signed 'Woz' by co-founder Steve Wozniak, who had been so central to their invention.

While there was much to admire about the Apple IIGS, some software publishers found there were technical limitations and declined to create original products for it. By the end of 1992, the Apple IIGS had been discontinued.

ABOUT CHARLOTTE HENRY

Charlotte Henry is a journalist and author covering media and technology. Based in London, she is the UK Associate of The Mac Observer, hosts its Media+ podcast, and has written for various other outlets. Her first book, *Not Buying It*, was published in 2019.

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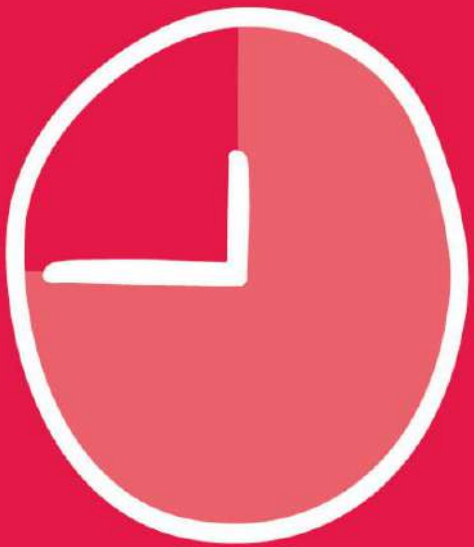
THE BRAIN TUMOUR CHARITY

A CURE CAN'T WAIT



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